Army eMS 301
Army Installation Environmental Management System Implementation *Guidance*

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Target Audience:

eMS Management Representatives and other Installation personnel in charge of eMS implementation

Course Objectives:

1. General Awareness of eMS and ISO 14001 principles;
2. Provide comprehensive guidance on implementing an eMS at an Army installation;
3. Provide instruction for use of the Army's eMS Implementation guidance document;
4. Assure you that the established goals are attainable.

Agenda

Module	Topic (steps)	Time (min)	Lead / Presenter
1	**Getting Started** (1-10)	40	Bill Herb
2	Awareness Training (11) Documenation / control / communication (12-14)	50	Mark Ditmore
3	**Planning and Priorities** - Legal Requirements / Aspects and Impacts (15-19)	120	Dave Giffin
4	**Environmental Management Programs** (20-27)	90	Dave Giffin
5	**Evaluating the EMS** - Checking / CA and EMS Audits / Mgt review (28-30) EPAS and Self Dec.	40	Mark Ditmore
	Total Time	340	

Module 1

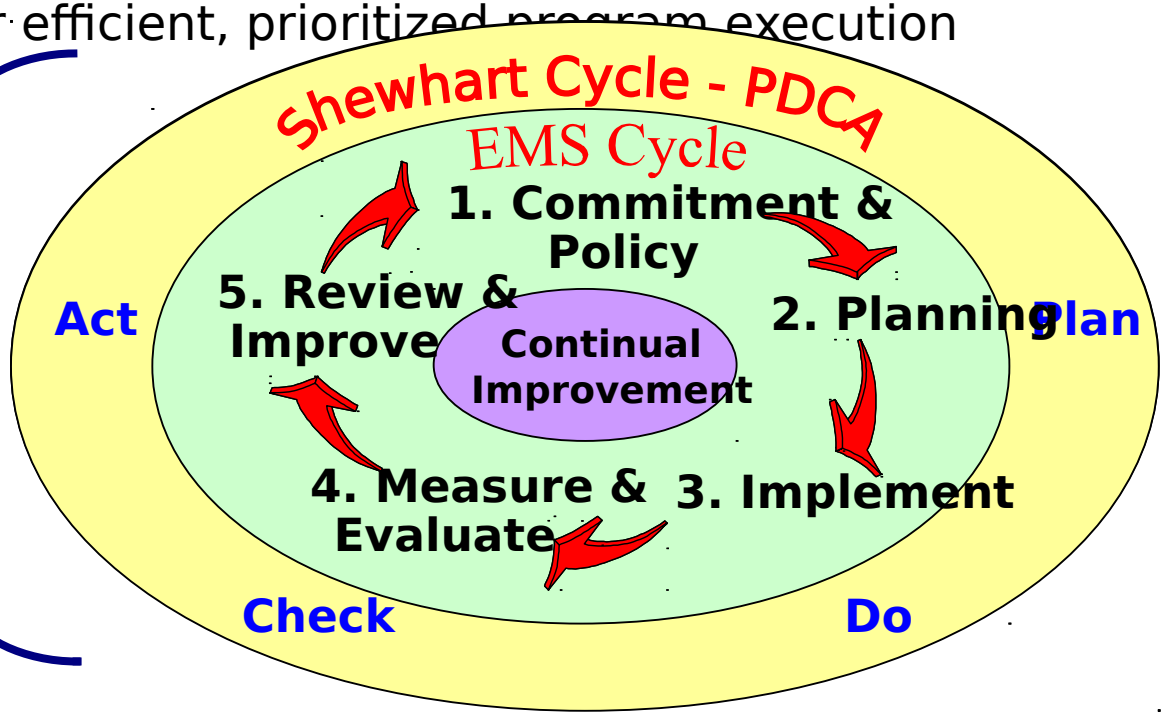
eMS / ISO Basics and Getting Started

- General eMS Awareness
- Step 1 – Select EMSMR
- Step 2 – Select CFT
- Step 3 – CFT Training
- Step 4 – Conduct Self Assessment
- Step 5 – Brief the EQCC
- Step 6 – Prepare Implementation Plan
- Step 7 – CDR Approves the Implementation Plan
- Step 8 – Kickoff Meeting
- Step 9 – Identify Mission Focus
- Step 10 – Environmental Policy

What is an eMS?

- Part of the OVERALL MANAGEMENT SYSTEM of an Installation
- Systematic/quality approach to environmental management that incorporates people, procedures, and work practices and BUILDS upon existing programs
- Single Installation approach to managing environmental activities that allows for efficient, prioritized program execution

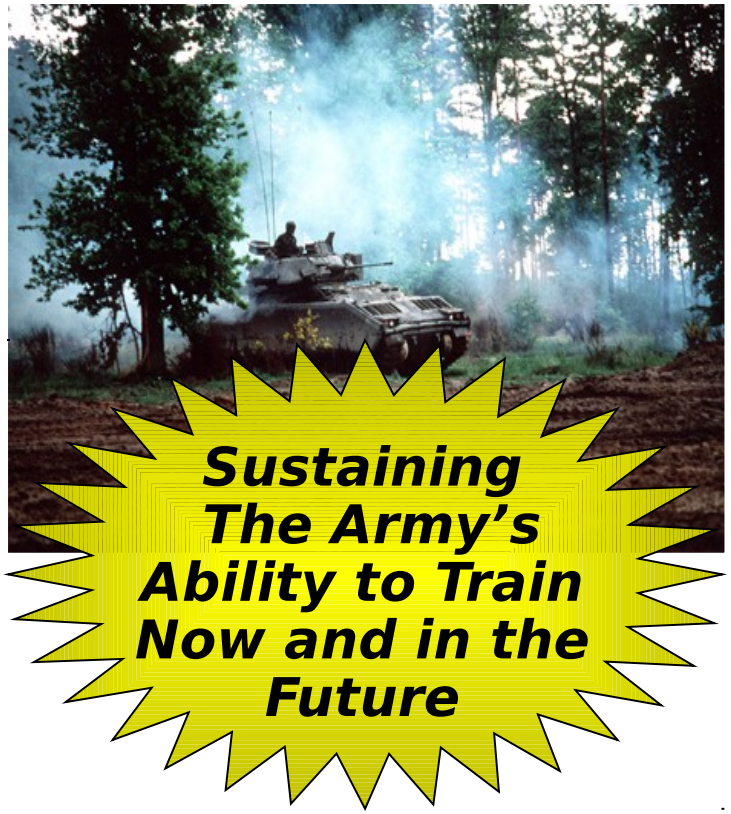
Five Major Components



Complete integration of environmental management into all missions and business practices

eMS Drivers

- **Exec. Order 13148,** "Greening the Government Through Leadership in Environmental Management" (April, 2000)
- **DOD Policy** describing eMS requirements (05 April, 2002)
- **DASA (ESOH) Memo** describing eMS requirements (13 July, 2001)
- **ACSIM Memo** describing eMS requirements (06 August, 2001)
- **Sustainable Range Program Plan** describing eMS requirements (06 August, 2003)



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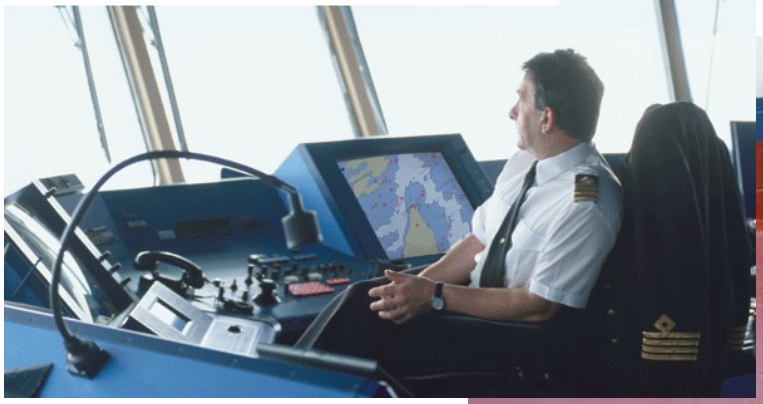
Sustaining The Army's Ability to Train Now and in the Future

It's the right thing to d
It's the smart thing to

SUSTAINABILITY AND eMS

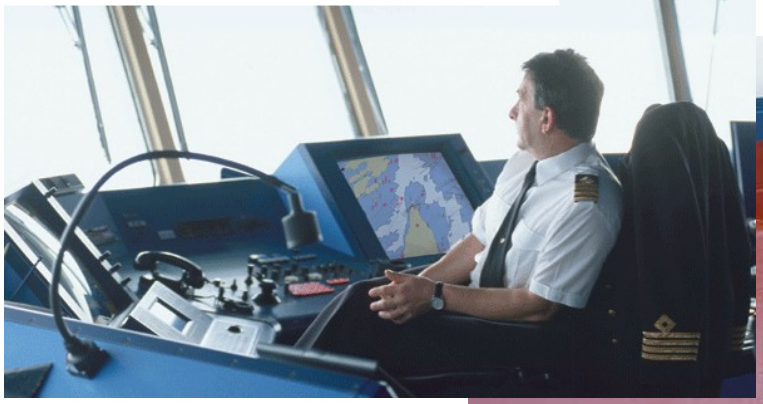
SUSTAINABILITY



SUSTAINABILITY IS THE NAVIGATOR, eMS IS THE RUD

SUSTAINABILITY WITHOUT eMS

SUSTAINABILITY



Is like a ship without a rudder.

We may know where we want to go, but have limited ability to control our course.

eMS WITHOUT SUSTAINABILITY

SUSTAINABILITY

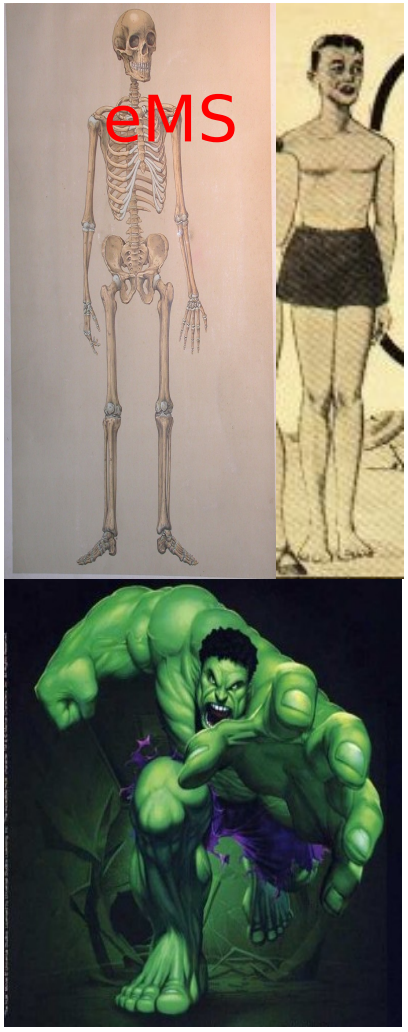
Is like a ship without a navigator.

We can steer wherever we want to go, but we don't know if we are going in the right direction.

What Must Be Completed?

Dec 31, 2005: The following Six Metrics will be used for DoD components to determine compliance with EO 13148's requirement for an "eMS in Place"

1) An **environmental policy statement** (30 Sep 03)
2) A **self-assessment** (30 Mar 04)
3) A **written Implementation plan** (30 Sep 04)
4) A prioritized **list of aspects** (30 Mar 05)
5) Appropriate installation personnel have received **awareness-level eMS training.** (30 Mar 05)
6) Completed at least one **management review** (31 Dec 05)



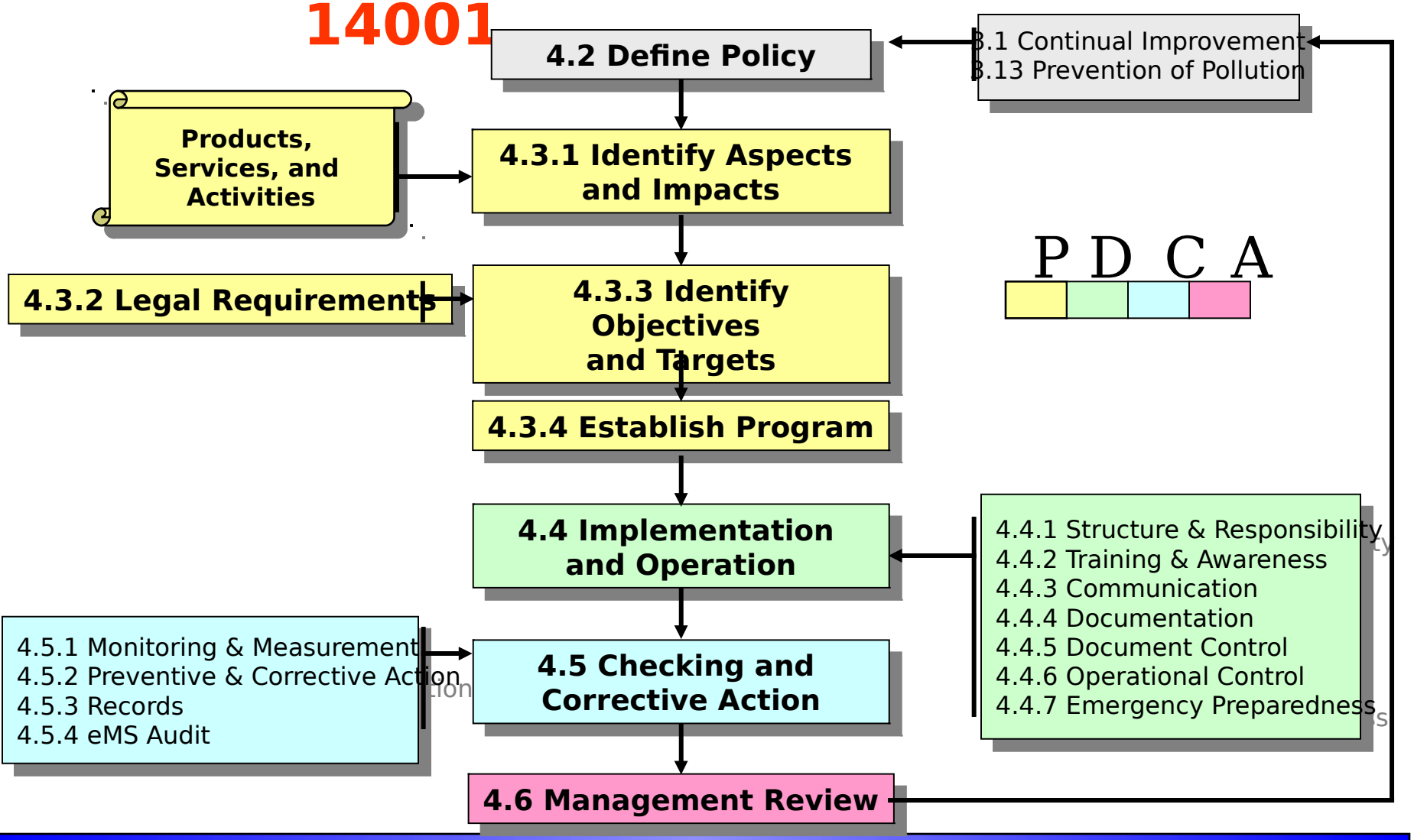
Sept 30, 2009: Installation wide - ISO 14001 conforming eMS in place

What Is ISO 14000?

- Set of International Standards that ***may*** be used to govern an organization's eMS (voluntary)
- ANSI is the US Representative
- Total of at least 20 separate documents
- 14001 is the eMS standard for certification
- Army has selected ISO 14001 as its eMS framework of choice

Army eMS Implementation

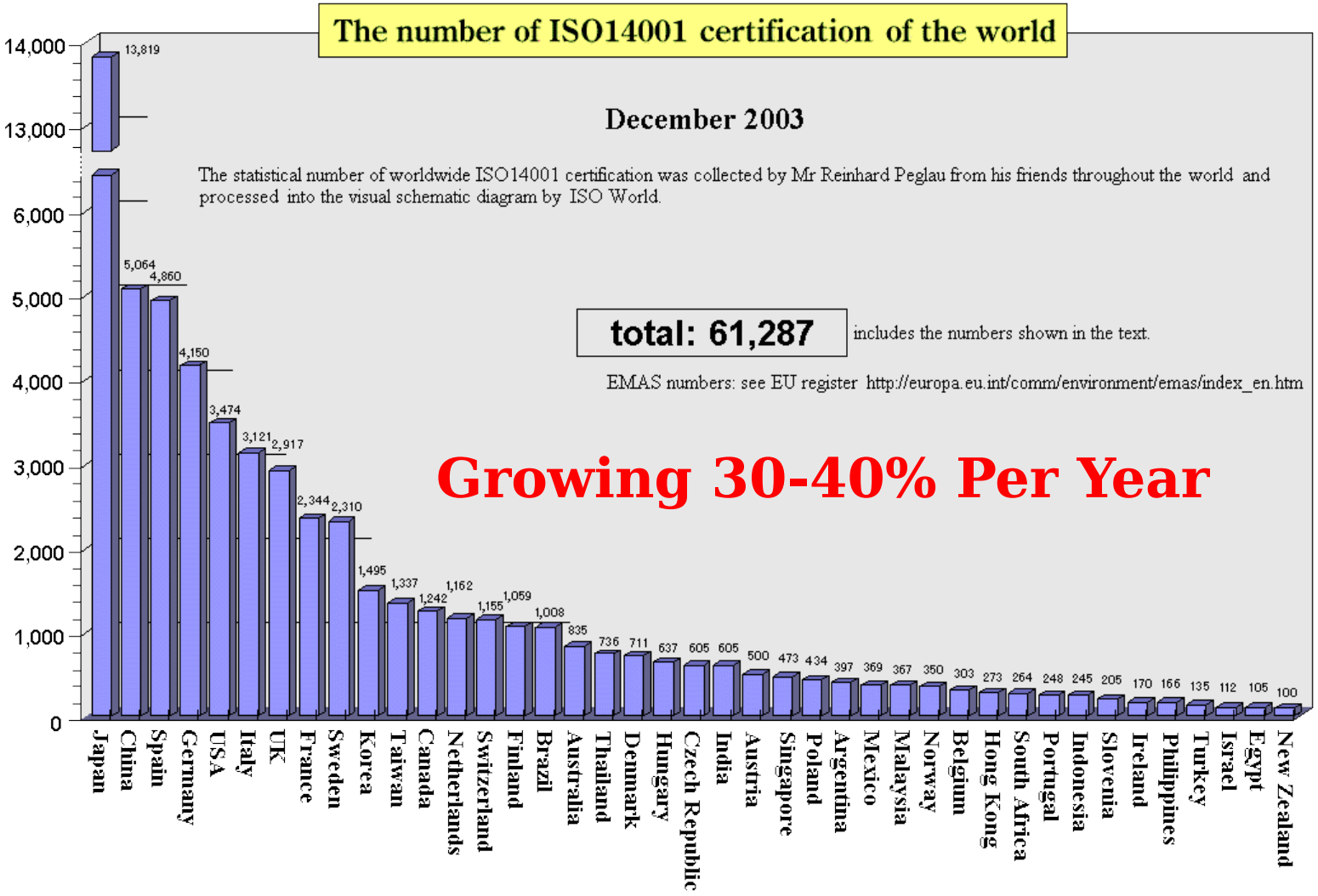
The eMS Model per ISO 14001



Why Adopt ISO 14001?

- Global standard for Army's global mission
- Clear definition of what is needed
  - externally recognizable by regulators, stakeholders & host communities
- Standardized approach is cheaper & faster to implement
- Common structure aids interoperability
  - across Army, DoD, coalition partners, industry

Army eMS Implementation



Iran:98, Rumania:96, UAE:92, Colombia and Greece:90, Chile:80, Estonia:74, Slovak Republic:73, Lithuania:72, Vietnam:56, Croatia:52, Russian Federation:48, Costa Rica:40, Luxembourg and Uruguay:32, Peru:31, Pakistan:26, Cyprus:21, Latvia and Liechtenstein:20, Tunisia:18, Bulgaria and Venezuela:17, Jordan:16, Sri Lanka:13, Serbia and Montenegro:12, Morocco:11, Nigeria and Zimbabwe:10, Saudi Arabia and Yugoslavia:9, Syrian Arab Republic:8, Trinidad & Tobago:7, Oman:6, Azerbaijan, Bangladesh, Bolivia, Lebanon and Mauritius:5, Brunei, Malta, Namibia, Puerto Rico and Ukraine:4, Algeria, Bahrain, Barbados, Guyana, Iceland, Kuwait, Malawi and Monaco:3, Andorra, Belarus, Belize, Botswana, Cameroon, Ecuador, Greenland, Guatemala, Honduras, Macau, Qatar Senegal and Zambia:2, Bosnia and Herzegovina, Cambodia, Dominican Republic, Fiji, FYR of Macedonia, Ghana, Jamaica, Kazakhstan, Kenya, Mozambique, Myanmar, Nepal, Niger, Palestine, Panama, Saint Lucia, Seychelles, Sudan, Tanzania and Turkmenistan:1

Guidance to Help Installation's Get Started

HQDA and USAEC has finalized Army-specific guidance to help installations implement eMS – "An Implementers Guide for Army Environmental Management Systems"

- explains Army policy and operating requirements offering step-by-step guidance on the entire eMS implementation process.
- focuses on procedures that allow eMS to best support the Installation's mission.

Also completed is an "Army Commander's Guide to Environmental Management Systems."

- Focuses specifically on actions that should be taken by the Garrison Commander to successfully implement and sustain an effective eMS.

Both guides can be found on DENIX and AKO

Getting Started

It’s as easy as 1, 2, 3…….

A step-by-step approach to implementing your installation eMS

Army eMS Implementation

The Step-By-Step Process

31 December 2005 Milestone: At a minimum, the Army metric elements (in yellow) must be completed and an annual management review performed before 31 December 2005 in order to satisfy Army Policy and EO 13148 requirements.

Start Here

Commander (CDR) and eMS Management Representative(EMSMR)

EMSMR and Cross Functional Team (CFT)

Step 9 Mission Focus

Step 10 Environmental Policy, ISO 14001 Sec 4.2

Step 11 Awareness Training ISO 14001 Sec 4.4.2

Step 12 Documentation ISO 14001 Sec 4.4.4

Step 13 Document Control ISO 14001 Sec 4.4.5

Step 14 Communication ISO 14001 Sec 4.4.3

Step 15 Legal and Other Requirements ISO 14001 Sec 4.3.2

Steps 16-19 Environmental Aspects ISO 14001 Sec 4.3.1

Step 20: Environmental Management Programs, ISO 14001, Sec 4.3.4

ISO 14001, Sec 4.3.3

Step 22: Structure & Responsibility ISO 14001, Sec 4.4.1

ISO 14001, Sec 4.4.6

Step 24: Competence Training, ISO 14001, Sec 4.4.2

Step 25: Monitoring and Measurement ISO 14001, Sec 4.5.1

Step 26: Records, ISO 14001, Sec 4.5.3

Step 27 Emergency Preparedness and Response ISO 14001 Sec 4.4.7

Step 28 Non-Conformance and Corrective and Preventive Actions, ISO 14001 Sec 4.5.2

Step 29 eMS Audits ISO 14001, Sec 4.5.4

Step 30 Management Review ISO 14001, Sec 4.6

- CDR Selects EMSMR
- EMSMR Selects Cross Functional Team (CFT)
- CFT Receives eMS Training
- CFT Conducts Self-Assessment
- CDR and EMSMR meet with EQCC
- CFT Prepares eMS Implementation Plan
- CDR Approves eMS Implementation Plan
- CDR/EMSMR Hold eMS Kickoff Meeting

NOTE: The EMSMR leads the CFT.

After all eMS elements are implemented, the system shifts to a "continuous improvement" mode, where all eMS elements are periodically reviewed and revised to improve mission focus and environmental performance

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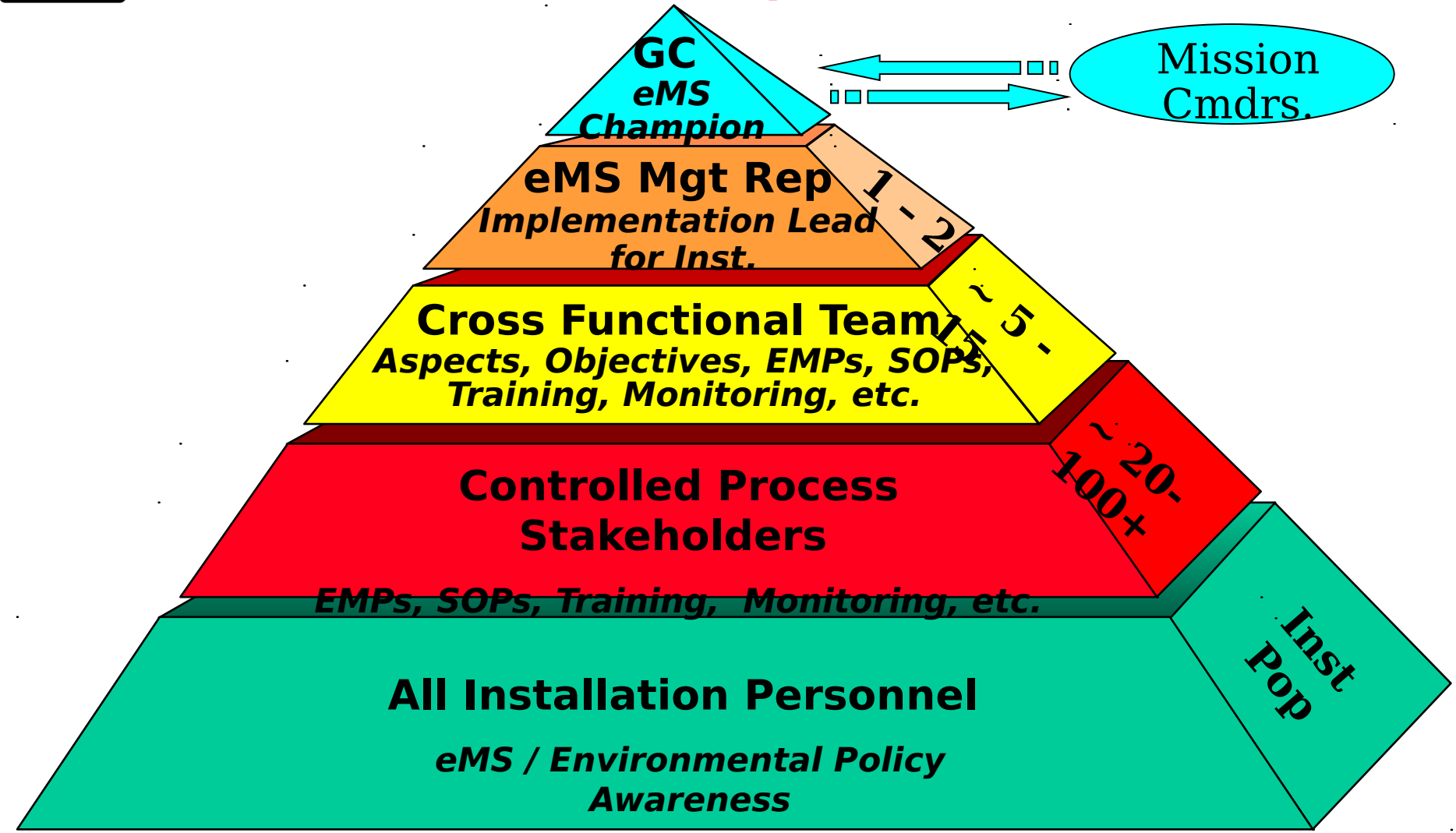
Army eMS Implementation

eMS Players



Step 1
Select the eMS Management Representative (EMSMR)

- Commander appoints the EMSMR and delegates the necessary authority
- The EMSMR Should:
  - Understand installation organizations
  - Have good management skills
  - Lead and manage the Cross Functional Team
- The EMSMR Will:
  - Plan and manage eMS implementation
  - Delegate tasks and establish deadlines
  - Arrange training, guidance and assistance
  - Collect and integrate work

Step 2
Cross Functional Team (CFT)
Roles and Responsibilities

- Successful eMS requires input and representation from all functional areas of the installation
- If just environmental – eMS will fail!
- Cross functional team supports garrison wide eMS implementation
- Serves as the liaison between the eMS Champion, EQCC and functional process owners
- Key areas for CFT leadership – aspect analysis, establishment of objectives targets, EMPs, SOPs, training, monitoring,

Step 3
Conduct CFT Orientation

- Provide copies of eMS Implementation Guide
- Establish CFT training requirements & schedule
- Establish CFT meeting schedule
- Appoint an eMS document coordinator
- Appoint a meeting recorder

Step 3
CFT Training – Minimum Requirements

- Executive Order requirements
- Army policy requirements
- ISO 14001 requirements
- eMS fundamentals
- Roles and responsibilities / expectations of the CFT

Step 4
Conduct the Self-Assessment

- AKA “eMS Gap Analysis”
- CFT responsibility
- Gap analysis of conformance with ISO 14001 standards
- Performed in a few days
- Many eMS components should already be in place

Army Metric - Accomplish by 30 March 2004!

Step 5
Meet with the EQCC

- Provide eMS overview
  - Executive Order requirements
  - Army policy requirements
  - ISO 14001 requirements
  - eMS fundamentals
- Army awareness briefing is available on DENIX
- Explain their role in planning, implementation, & management reviews
- Brief results of self-assessment
- Solicit input to the environmental policy statement

Obtain Their Buy-In and Suppo

Step 6
Prepare the Installation eMS Implementation Plan

- EMSMR and CFT develop the plan.
- Based on results of self-assessment.
- Does not have to be overly burdensome to be effective - 4-5 page plan is sufficient.
- Details the key actions required to satisfy the implementation requirements of EO 13148, Army/DoD policy and ISO 14001.
- Should include milestones, resources, budget requirements and organizational responsibilities for implementing.

Army Metric - Accomplish by 30 September 2004!

Step 7
Secure Commander Approval of Implementation Plan

Obtain commander's approval & signature on the plan!

Step 8
Conduct eMS Implementation Kickoff Meeting

- Sponsored by Commander
- Brief eMS overview
- Brief self-assessment results
- Explain how participants will contribute to eMS implementation
- Obtain installation support & buy-in

Step 9
Identify Mission Focus

- Identify and prioritize missions that installation units and organizations must currently perform to maintain readiness or to accomplish the organization's day-to-day missions.
- Identify and prioritize anticipated (future) mission requirements (3 to 5 years in the future).
- Identify future "big picture" issues that might impact the installation mission (10 or more years in the future.)
- Identify environmental roadblocks or impediments that affect mission capabilities.

Step 10
Prepare Environmental Policy Statement

ISO 14001 defines as: "*Statement by the organization of its intentions and principles in relation to its overall environmental performance which provides a framework for action and for the setting of its environmental objectives and targets*."

Army Metric - Accomplish by 30 September 2003!

Module 2

Awareness Training / Documentation / Control / Communication

- Step 11 – Awareness Training
- Step 12 – Documentation
- Step 13 – Document Control
- Step 14 – Communication

Army eMS Implementation

The Step-By-Step Process

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Step 11

Start Here

Commander (CDR) and eMS Management Representative(EMSMR) -8):

- CDR Selects EMSMR
- EMSMR Selects Cross Functional Team (CFT)
- CFT Receives eMS Training
- CFT Conducts Self-Assessment
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NOTE: The EMSMR leads the CFT.

EMSMR and Cross Functional Team (CFT) MS

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After all eMS elements are implemented, the system shifts to a "continuous improvement" mode, where all eMS elements are periodically reviewed and revised to improve mission focus and environmental performance

Step 11: Conduct eMS Awareness Training

ISO 14001, paragraph 4.2:

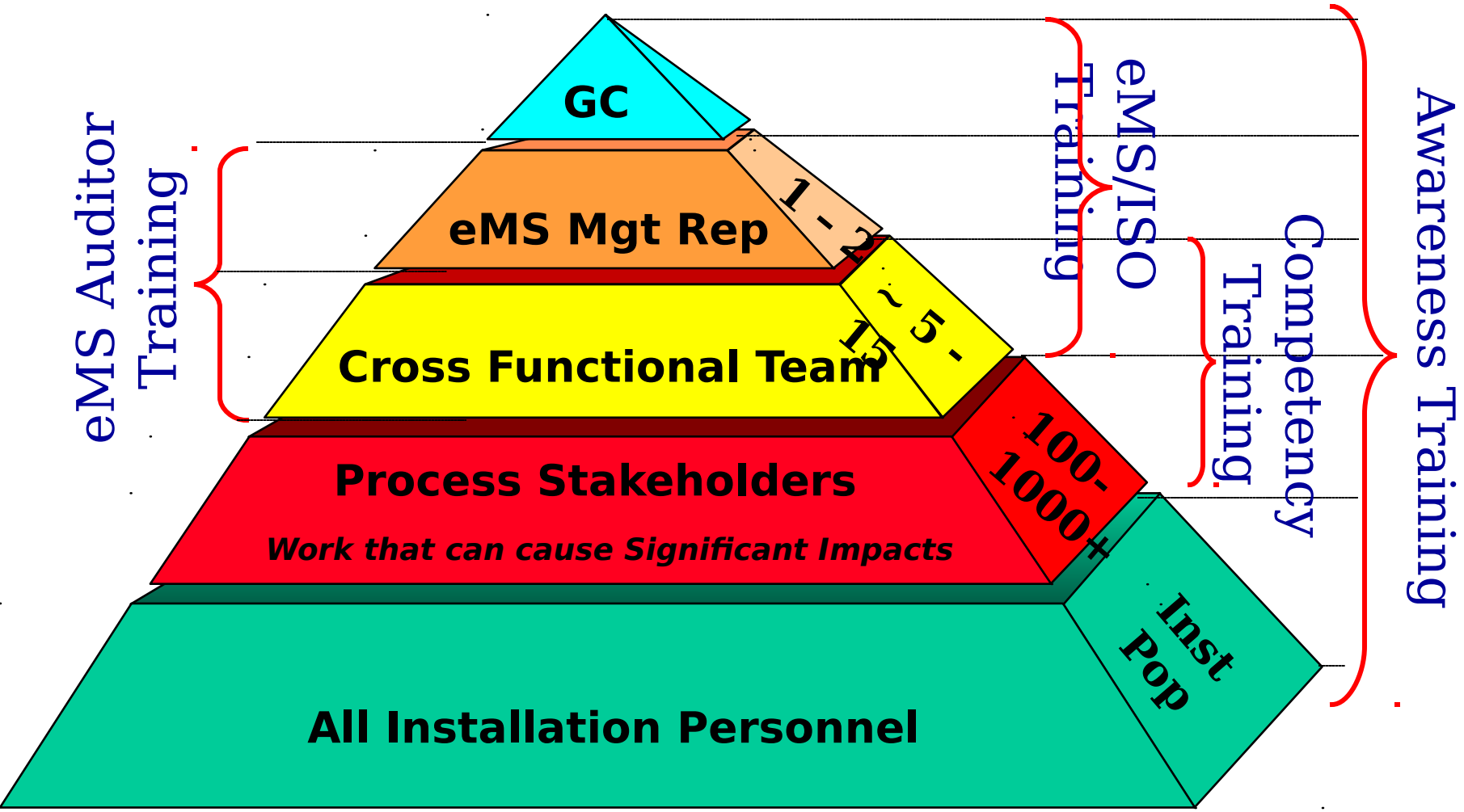
"Top management shall define the organization's environmental policy and ensure that, within the defined scope of its environmental management system, it…f) is communicated to all persons working for or on behalf of the organization..."

ISO 14001, paragraph 4.4.2:

"The organization shall establish, implement and maintain a procedure (s) to make persons working for it or on its behalf aware of a) the importance of conformity with the environmental policy and procedures and with the requirements of the eMS…c) their roles and responsibilities in achieving conformity with the requirements of the eMS."

Army Metric - Accomplish by 30 March 2005!

eMS Training – General Distinctions



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eMS Training

- Absolutely crucial step in successful implementation
- Virtually continuous - Never “done”!
- Fundamental change from how we have dealt with environmental risks in the past
- EPR – Funding available for awareness training in the future

Evolution of the awareness TRAINING Metric

DOD: DoD Memo dated 30 Jan 2003

"Percentage of appropriate facilities where appropriate installation personnel have received awareness-level eMS training."

Army: Army Memo dated 02 May 2003

"Installation personnel receive awareness level eMS training that is documented and consistent with Army eMS policy."

Army: Army EQR

"The percentage of civilian and military personnel on the installation that have received awareness-level eMS training."

0-33%

>33-66%

Issues and Confusion with the Old Metric

- Asking for a “percentage of civilian and military personnel” implies that we need to count everyone who has received training.
- Counting leads to classrooms, tests, certificates, etc.
- NOT the intention of ISO 14001 or the DoD metric for awareness training.
- Very resource intensive to count, test, and document.
- Resources can be better used elsewhere.

New eMS AWARENESS training Metric

"Has your installation established a documented procedure and followed it to ensure that appropriate installation personnel have received eMS awareness training?"

1. Yes
2. In development
3. No, procedure not developed or implemented

Three answers are consistent with other metrics.

Microsoft Outlook File Attachment

New eMS AWARENESS training Metric

- Focus on awareness as an outcome
- Do not get tunnel vision because of the term “training”
- Documentation focused on developing and following a training procedure, not counting / testing
- Use of “Appropriate Personnel” allows for flexibility.
- Do not try to make everyone eMS and ISO experts – its not possible and may turn people off
- Think about how safety awareness occurred

eMS AWARENESS training
Who needs to be aware?

- "Appropriate Personnel" - What does this mean?
  - Ideally everyone who works for, or on behalf of the installation (including contractors).
  - Ideally would include persons in family housing since they are an important factor in terms of environmental aspects.
  - Bottom-line: this is an Installation decision

eMS AWARENESS training
What should they be aware of?

- The installation is implementing an eMS
- Who is the eMS Coordinator and who is on the CFT
- Leadership support for initiative
- The installation's environmental policy (priorities)
- The installation's broad objectives *(Those that may be affected by everyone on the installation, if known)*
- Everyone has a role to play in reaching installation objectives

eMS AWARENESS training

What should you stay away from?

- Trying to make everyone an eMS or ISO expert
- Overloading on eMS terms
- Trying to make everyone an environmental manager
- Competency training – it will be done later
- Regulatory requirements – part of competency training
- Written tests
- Trying to maintain records of who has received awareness training (KISS)

eMS AWARENESS training
How do I implement it?

- Likely that no single approach will reach everyone
- Consider Multi faceted / Multi Media approach
  - Installation Newspaper Articles
  - Wallet Cards
  - Posters
  - Installation web site / intranet / message boards
  - Videos
  - Part of in-processing briefings and newcomers orientation
  - Computer Based Training
- Start small and build over time

ARNG EMS Awareness "Smart Card"

Washington Army National Guard
Environmental Policy Statement
May 30, 2004

The Washington Army National Guard (WAARNG) is a dynamic organization of citizen soldiers, striving for excellence and focused on readiness. Its mission is to maintain a ready, professional militia, dedicated to the highest quality of service to the nation, the state, and its communities. In preparing to meet its requirements, the WAARNG is also devoted to incorporating environmental stewardship and sustainability into all aspects of operations, while providing a force which is equipped and trained to respond to assigned federal and state contingencies and mission.

The WAARNG is committed to continual improvement in its environmental management program and to the prevention of pollution. To that end, its objectives are:

- Communicate its environmental requirements to all levels of the agency;
- provide management oversight and adequate personnel training to instill environmental stewardship, ensure an understanding of the agency environmental management system and its requirements, and obtain a commitment to compliance;
- aggressively pursue compliance with all applicable regulatory requirements at all levels of government, DOD, DA, and NGB environmental policies, regulations, and guidance, and other requirements to which the agency subscribes;
- to the extent mission requirements allow, identify and implement pollution prevention opportunities in all aspects of operations;
- and partner with federal, state, and local agencies, community groups, and other interested parties to communicate mission requirements, and minimize environmental impacts that do not obstruct readiness while concurrently pursuing opportunities for environmental excellence.

The WAARNG will continually strive to improve its environmental management by working with directorates, commands, and units to improve efficiency and effectiveness. It will provide suitable training. It will conduct annual internal evaluations to evaluate conformance with requirements, identify policy issues that must be addressed by the agency leadership, and assess the agency's performance in achieving its goals, objectives, and projected targets.

The WAARNG will ensure all documentation is complete and available to its employees. And, its environmental policy will be available to the public via the world-wide-web, which will act as a bridge to increased community awareness of the agency's environmental management programs.

GORDON D. TONEY
Brigadier General, WAARNG
Asst Adjutant General-Army

The environmental Management System (eMS) Awareness Guide

This guide contains the minimum essential information you must know to satisfy your eMS awareness training requirement.

Be prepared when asked!

ARNG EMS Awareness "Smart Card"

Three things every soldier, civilian employee, and support contractor of the ARNG must know:

1. Know that eMS is the Management System we use to implement the Adjutant General's/Commander's Environmental Policy.

2. Know the basic contents of the Policy Letter (Refer to the policy on the back page or in work area)

- Commitment to continual improvement
- Commitment to prevent pollution
- Commitment to comply with environmental laws and regulations and to other requirements to which we subscribe (includes our own plans and SOPs)

3. Know the Environmental Impacts of your job!

- Know the possible causes of environmental impacts from the activities you perform and manage your activities using proper procedures.

- If you have been designated to perform an activity that could result in a **significant** environmental impact, you must know how to properly manage that activity.

Significant environmental impacts are those impacts designated by your leadership and documented in your **eMS** plan.

eMS = Actively managing continual improvement with an overall goal of minimizing significant mission and environmental impacts!

Why is environmental management important?

Sound environmental management enables maximum use of training lands and facilities to train soldiers, reduces potential environmental impacts, and maximizes efficient use of ARNG resources!

eMS is a mission enabler!

Why does our symbol (eMS) have a lower case "e"?

We put the emphasis on our Management System in which everyone has environmental roles and responsibilities, not on an environmental program managed only by environmental professionals.

"e" is for everyone!

Where to find more information on eMS?

State Intranet, supervisor, Unit Environmental Compliance Officer, State **eMS** Management Representative, or the **eMS** Coordinator in the environmental management office.

Important Note: Receipt and review of this guide constitutes your required **eMS** awareness training.

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eMS AWARENESS training
When do I implement it?

- Now! 30 March 2005 is Milestone.
- Update and conduct continuously as installation population turns over.
- As long as there is an eMS – awareness training is never "done".
- Start small and expand
  - Remember "continual improvement"
  - Set milestones

eMS AWARENESS training

What should the procedure contain?

- Identify when you need to review and revise the procedure
- Who your target audience will be
  - Appropriate personnel
- The awareness actions that you plan to take
  - What media will you use to disseminate the training
  - How often will it take place
- What the focus of the awareness training will be
- Who is responsible for the training procedure

eMS AWARENESS training

Discussion of the sample procedure

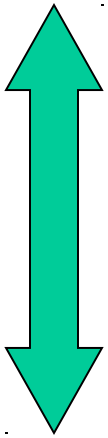
Step 12
Initiate eMS Documentation

ISO 14001, paragraph 4.4.4:

"The environmental management system documentation shall include a) the environmental policy, objectives and targets, b) description of the scope of the eMS, c) description of the main elements of the eMS and their interactions, and reference to related documents, d) documents, including records, required by this International standard, and e) documents, including records, determined by the organization to be necessary to ensure the effective planning, operation and control of processes that relate to its significant environmental aspects."

Initiate eMS Documentation

Less Detail



More Detail

Environmental Policy

eMS Manual

eMS Procedures

Work Instructions (SOPs)

eMS Records

Environmental Documentation

- Environmental Policy – Developed in Step 10
- Environmental Objectives – Developed in Step 21
- Scope of the Environmental Management System
- eMS Manual – eMS roadmap
- eMS Procedures – The “how to” of operating & maintaining the eMS
- eMS Work Instructions (SOPs) – The “how to” for specific processes & activities
- eMS Records and other documents– Needed to monitor eMS performance

Step 12
eMS Documentation

When you designate electronic or hardcopy documents to be maintained under the eMS, you must mange and maintain them under the document control procedures you develop in Step 13.

Unnecessary documentation means unnecessary work, and an increase in the potential for non-conformance with the ISO 14001 standard.

Step 13
Develop Document Control Procedures

ISO 14001, paragraph 4.4.5:

"Documents required by the eMS and by this International Standard shall be controlled. Records are a special type of document and shall be controlled in accordance with the requirements given in 4.5.4.

The Organization shall establish, implement and maintain a procedure(s) to

"

Step 13
Develop Document Control Procedures

Procedures will include the following:

- Approve documents for adequacy prior to use
- Review, update and re-approve as necessary
- Identify revisions and changes
- Documents must be available at the point of use
- Must be legible, dated, & readily available
- Documents of external origin are controlled
- System for version control with old versions promptly removed

eMS Software to Help With Document Control

1. eMS Software packages can be very effective for eMS implementation in certain cases
   - There are numerous COTS software systems
   - Army can't endorse any single product
2. At this time, Army has no plans to field or mandate any standardized eMS software
   - ACSIM moratorium
   - No one size fits all solution

Step 14
Develop Communication Procedures

ISO 14001, paragraph 4.4.3:

".....the organization shall establish, implement and maintain procedures for a) internal communication between the various levels and functions of the organization.....The organization shall decide whether to communicate externally about its significant environmental aspects, and shall document its decision. If the decision is to communicate, the organization shall establish and implement a method(s) for this external communication."

Step 14
Develop Internal Communication Procedures

- Key to a successful eMS
- Use existing communication channels
- Ensure information flows vertically to all organizational levels, and horizontally across all functional areas
- Use multiple communication channels to disseminate information
- Keep records of what/who/when/how information has been disseminated

Step 14
What Should be Included in Internal Communication Procedures?

- Explain how the installations Environmental Policy will be communicated to all employees
- Explain how awareness and competency training will be communicated (reference procedures)
- Explain the how the installation will use existing communication vehicles such as:
  - Safety supervisor meetings
  - EQCC meetings
  - E-mail
  - Bulletin board postings
  - Internal Memoranda

Step 14
Develop External Communication Procedures

- Decide what information will be made available to the public or other external parties
- Decide how to disseminate information
- Involve the PAO, legal, security & all other relevant staff elements
- Keep records of what has been distributed

Step 14
An Example of Language to Use When Developing Procedures

All written, external input concerning environmental performance shall be directed to the eMS Management Representative who will:

- Evaluate the substance of the inquiry
- Determine if the inquiry pertains to an existing significant aspect or to one that may need to be considered significant
- Respond appropriately to the external party through the installations external communication channels
- Communicate the inquiry to the appropriate functional area using the installations internal communication channels
- Keep all external inquiries for consideration when establishing and updating environmental objectives and targets
- Initiate any necessary changes to the eMS

Step 14
Develop External Communication Procedures

ISO 14001 requires that only the environmental policy be made public but:

- ISO does requires that you consider whether or not to inform the public on significant environmental aspects
- Regardless of the decision, you must document the decision!
- Participation in state or Federal eMS regulatory incentive programs may require you to communicate your significant aspects

If you do wish to inform the public of significant aspects – Document a procedure for communicating them.

Module 3
Planning

- Step 15 – Identify Legal & Other Requirements
- Step 16 – Identify all mission & installation activities, products, & services
- Step 17 – Identify the environmental aspects of the installation's activities, products & services
- Step 18 – Identify the environmental impact(s) of each aspect
- Step 19 – Identify significant environmental aspects

Army eMS Implementation

The Step-By-Step Process

31 December 2005 Milestone: At a minimum, the Army metric elements (in yellow) must be completed and an annual management review performed before 31 December 2005 in order to satisfy Army Policy and EO 13148 requirements.

Steps 15-19

Start Here

Commander (CDR) and eMS Management Representative(EMSMR) [illegible]-8):

- CDR Selects EMSMR
- EMSMR Selects Cross Functional Team (CFT)
- CFT Receives eMS Training
- CFT Conducts Self-Assessment
- CDR and EMSMR meet with EQCC
- CFT Prepares eMS Implementation [illegible]
- CDR Approves eMS [illegible]
- CDR/EMSMR Hold eMS Kickoff Meeting

NOTE: The EMSMR leads the CFT.

EMSMR and Cross Functional Team (CFT) [illegible]MS

Step 9 Mission Focus

Step 10 Environmental Policy, ISO 14001 Sec 4.2

Step 11 Awareness Training ISO 14001 Sec 4.4.2

Step 12 [illegible]ocumentati on ISO 14001 Sec 4.4.4

Step 13 Document Control ISO 14001 Sec [illegible].4.5

Step 14 Communication ISO 14001 Sec 4.4.3

Step 15 Legal and Other Requirements ISO 14001 Sec 4.3.2

Steps 16-19 Environmental Aspects ISO 14001 Sec 4.3.1

Step 20: Environmental Management Programs, ISO 14001, Sec 4.3.4

[illegible] ISO 14001, Sec 4.3.3

Step 22: Structure & Responsibility ISO 14001, Sec 4.4.1

ISO 14001, Sec 4.4.6

Step 24: Competence Training, ISO 14001, Sec 4.4.2

Step 25: Monitoring and Measurement ISO 14001, Sec [illegible]

Step 26: Records, ISO 14001, Sec 4.5.3

Step 27 Emergency Preparedness and Response ISO 14001 Sec 4.4.7

Step 28 Non-Conformance and Corrective and Preventive Actions, ISO 14001 Sec 4.5.2

Step 29 eMS Audits ISO 14001, Sec 4.5.4

Step 30 Management Review ISO 14001, Sec 4.6

After all eMS elements are implemented, the system shifts to a "continuous improvement" mode, where all eMS elements are periodically reviewed and revised to improve mission focus and environmental performance

Step 15
Identify Legal & Other Requirements

ISO 14001:2004(E), paragraph 4.3.2 states:

"The organization shall establish, implement and maintain a procedure(s)

a) to identify and have access to the applicable legal requirements and other requirements to which the organization subscribes related to its environmental aspects, and
b) to determine how these requirements apply to its environmental aspects.

The organization shall ensure that these legal requirements and other requirements to which the organization subscribes are taken into account in establishing, implementing and maintaining its environmental management system.

The baseline for your eMS

Step 15
Identify Legal & Other Requirements

- The purpose of this eMS element is to:
  - Identify, track and communicate your organization's legal and other requirements
- The Results of this eMS element are:
  - A system procedure (eMS document) that identifies, tracks and communicates your legal and other requirements
  - A list (eMS Record) of applicable environmental laws and other requirements

Step 15
Identify Legal & Other Requirements

- Maintain an accessible list of legal and other requirements
  - Leverage your CSI, EPAS FAT List if available
- Develop a system to identify new/changed requirements that have potential impacts
  - *Get help from AEC EL/RAMP program office or REOs if needed*
- Implement a method for evaluating regulatory compliance
- Take corrective and preventive action when out of compliance.

Step 15
Identify Legal & Other Requirements

Legal & other requirements include:

- Federal, state, & local laws & regulations
- Host nation requirements/OEBGD/FGS
- Army policies & regulations
- Administrative documents such as permits, licenses, etc.
- Agreements with public authorities, customers
- Internal installation requirements
- Environmental management principles
- Agreements with community groups or non governmental orgs
- Public commitments of the installation or its higher chain of command

ISO 14001 and Legal Compliance

- Commitment to Compliance in Policy
- Procedures to Identify and Determine Applicability of Legal Requirements
- Consider in determining significance of aspects
- Consider in setting Objectives and Targets for Compliance
- Creating Programs to Achieve Objectives and Targets
  - Training of Employees
  - Resources
  - Operational Controls
  - Line Management Ownership
  - Employee Responsibility
- Periodic Check of Compliance Status
- Management Review to Propel Continual Improvements

Exercise #?

List the methods your installation can use to keep abreast of applicable legal requirements:

1.

2.

3.

4.

5.

eMS and Regulatory Flexibility

Regulatory Programs recognize the lowered risks that result from a formal eMS such as ISO 14001

Two national programs administered by the U.S. Environmental Protection Agency were identified:

- National Performance Track Program and
- Action Plan for Promoting the Use of Environmental Management Systems (eMS)

eMS and Regulatory Flexibility

The following states are currently without EMS related programs:

1. Alaska
2. Arizona
3. Arkansas
4. Delaware
5. District of Columbia
6. Florida
7. Hawaii
8. Illinois
9. Indiana
10. Iowa
11. Kansas
12. Maryland
13. Mississippi
14. Montana
15. Nebraska
16. Nevada
17. New Hampshire
18. North Dakota
19. Ohio
20. Oklahoma
21. Pennsylvania
22. Puerto Rico
23. Rhode Island
24. South Dakota
25. Vermont
26. West Virginia
27. Wyoming

The State of **Alabama's** Department of Environmental Management is currently working to develop an outreach program to encourage and assist businesses to develop EMSs.

The State of **Connecticut's** Department of Environmental Protection had developed an eMS Pilot Program but the program was never implemented.

eMS and Regulatory Flexibility

Types of Flexibility / Benefits Offered

- Reduced frequency of monitoring or reporting
- Increased priority for expedited review of permit applications
- Eligibility for consolidated or streamlined reporting
- Public Recognition
- Alternative schedules for routine compliance inspections;
- Alternative record-keeping and reporting systems
- eMS and Compliance Assistance

Steps 16-19
Complete Aspects & Impacts Analysis

- Definitions, Background
- Step 16 – Identify all mission & installation activities, products, & services
- Step 17 – Identify the environmental aspects of the installation's activities, products & services
- Step 18 – Identify the environmental impact(s) of each aspect
- Step 19 – Identify significant environmental aspects

Army Metric - Accomplish by 30 March 2005!

Environmental Aspect

ISO 14001, paragraph 3.6:

"Element of an organization's activities, products or services that can interact with the environment."

The Cause in a Cause and Effect Relationship

Environmental Impact

ISO 14001, paragraph 3.7:

"Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products, or services."

The Effect in a Cause and Effect Relationship

Significant Environmental Aspect

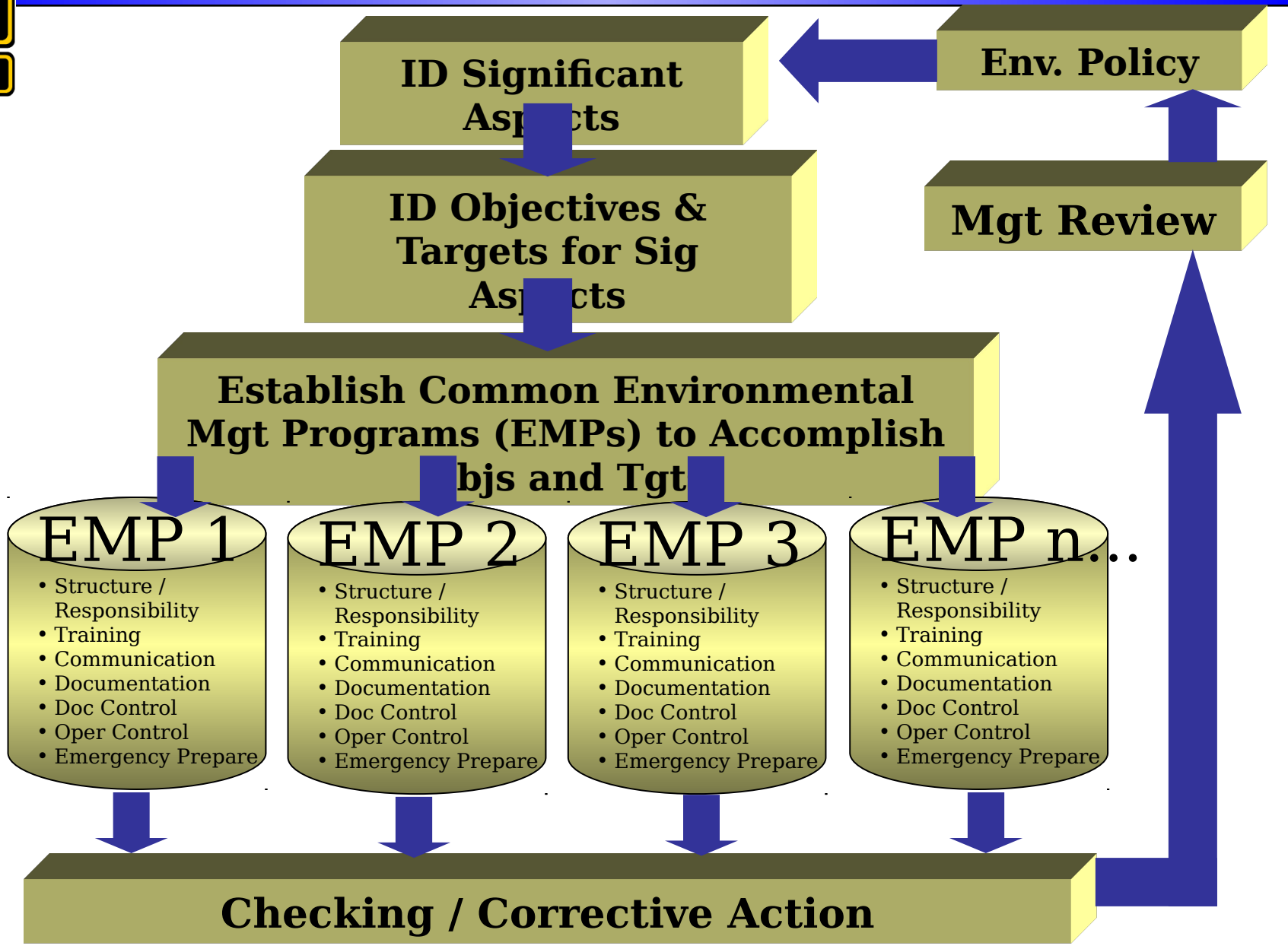
ISO 14001, paragraph 3.3:

"An environmental aspect that has or <u>can</u> have a significant environmental impact."

Identifying Aspects and Impacts

- Most difficult task for most organizations
- Identifying aspects is the basis for:
  - Establishing objectives & targets
  - Identifying training requirements
  - Establishing operational controls
  - Establishing environmental management programs (EMPs)
  - Performing periodic management reviews
- This is a major "MISSION FOCUS" component
- Significant Aspects form the foundation of your entire eMS

Army eMS Implementation

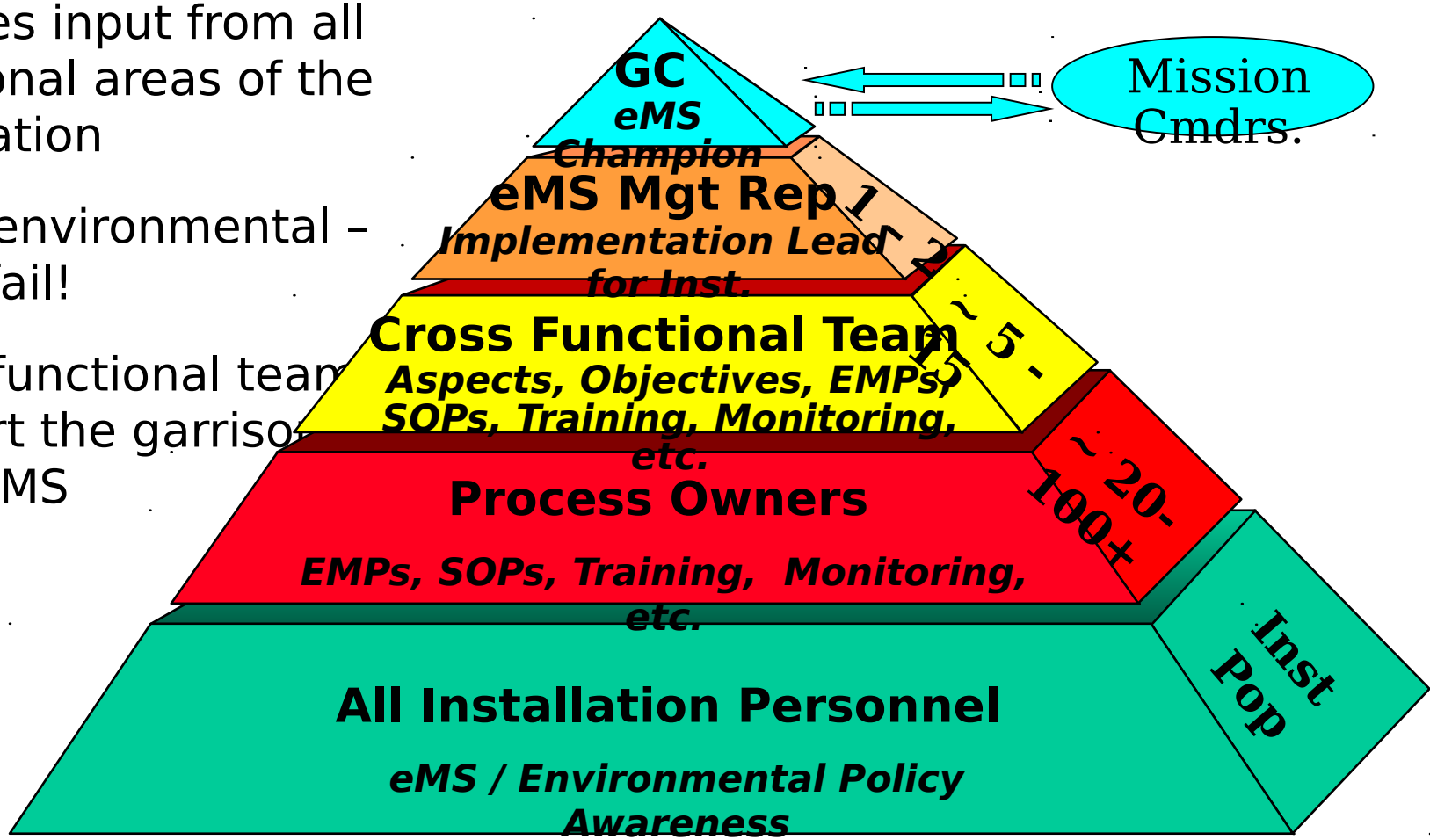


Why Is It So Difficult?

- Results from Army pilot studies at nine installations indicated that this is the most difficult step;
- Infinite approaches to doing the analysis;
- ISO 14001 requires the procedure to be documented;
- Can take significant time developing and agreeing upon a procedure;
- Requires multiple perspectives and people;
- Easy to get bogged down in the weeds.

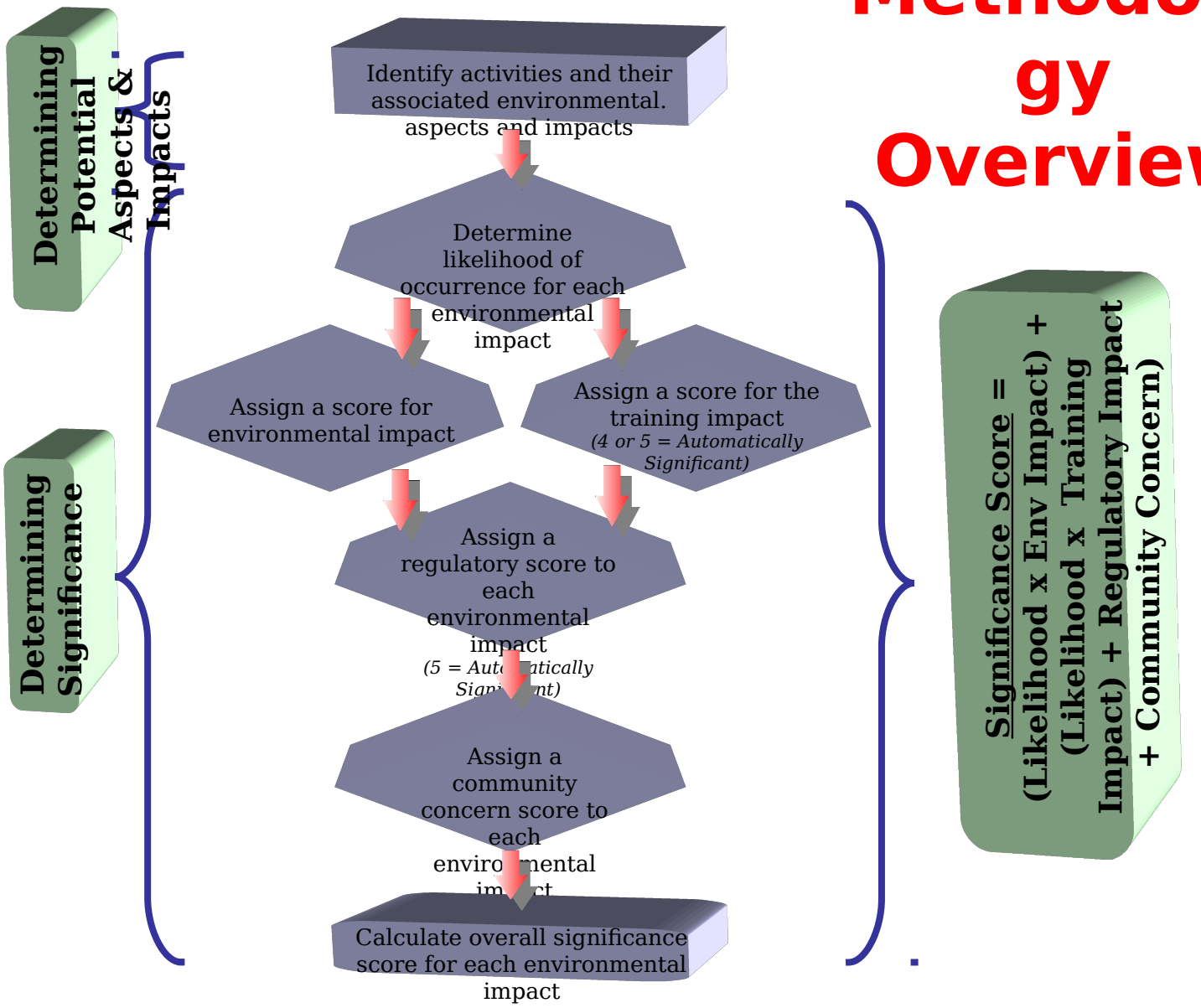
Role of the Cross Functional Team

- Successful eMS requires input from all functional areas of the installation
- If just environmental – it will fail!
- Cross functional team support the garriso- wide eMS



Army eMS Implementation

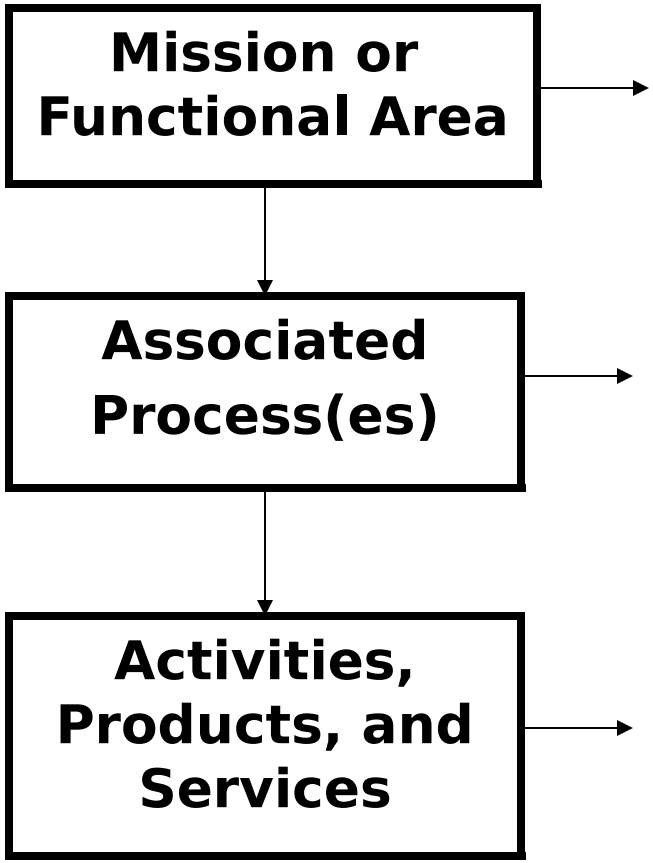
Methodology Overview


Determining Potential Aspects & Impacts
Determining Significance
Identify activities and their associated environmental. aspects and impacts
Determine likelihood of occurrence for each environmental impact
Assign a score for environmental impact
Assign a score for the training impact
(4 or 5 = Automatically Significant)
Assign a regulatory score to each environmental impact
(5 = Automatically Significant)
Assign a community concern score to each environmental impact
Calculate overall significance score for each environmental impact
Significance Score = (Likelihood x Env Impact) + (Likelihood x Training Impact) + Regulatory Impact + Community Concern)

The Completed Analysis

A. Environmental Aspect	B. Activities, Products, or Services	C. Environmental Impact	D. Likelihood (1-5)	E. Environmental Consequence (1-5)	F. Mission Impact (0-5)	G. Regulatory Status (0-5)	H. Community Concerns (0-4)	I. Overall Impact Score *Sum((DxE) + (DxF) + G + H)*	J. Overall Significance
Non hazardous waste generation (range/target scrap)	FCC Code 17710 Infantry Lane 4 Management of Target Scrap on Range	Soil Contamination	5	3	1	5 (Sig)	0	25	Significant
Uncontrolled releases (munitions constituents, UXO to water/soil)	FCC Code 17868 Multi-Purpose Fire Range 24 Engage Targets/Ground fire	Soil contamination	4	3	5 (Sig)	5(Sig)	3	40	Significant
		Water contamination	2	2	1	5(Sig)	0	11	Significant
	FCC Code 17868 Multi-Purpose Fire Range 24 Engage Targets Aerial fire (Helo/A-10)	Soil contamination	3	3	5 (Sig)	5(Sig)	3	32	Significant
		Water contamination	2	2	1	3	0	9	
	FCC Code 17868 Multi-Purpose Fire Range 24 UXO Clearance/EOD Support (Targets/Road)	Soil contamination	2	2	5 (Sig)	3	3	20	Significant
		Water contamination	1	2	1	3	0	6	
Ecological resource change (vegetation alteration)	FCC Code 17710 Infantry Lane 4	Habitat disturbance	1	1	0	0	0	1	
	FCC Code 17868 Multi-Purpose Fire	Vegetation Alteration	2	2	1	2	0	8	
Ecological resource change (hydrological alteration)	FCC Code 17868 Multi-Purpose Fire Range 24 Maintain Stream Crossing	Water contamination	1	2	1	3	0	6	
		Disturbance to Species	2	3	5 (Sig)	4	1	21	Significant
		Stormwater reduction (stream buffer)	POS.	POS.	POS.	POS.	POS.	POS.	***POSITIVE***
Soil resource change	FCC Code 17868 Multi-Purpose Fire Range 24 Vehicle Maneuver (Track/wheels)	Sediment Loading to streams	3	3	5 (Sig)	3	0	27	Significant
	FCC Code 17868 Multi-Purpose Fire Range 24 Munition impacts	Erosion	5	3	3	5(Sig)	0	35	Significant
		Sediment Loading to	2	3	5 (Sig)	5(Sig)	0	21	Significant
	FCC Code 17803 Automated Record Fire Range 8 Munition impacts	Erosion	4	2	3	5(Sig)	0	25	Significant
		Sediment Loading to streams	3	2	3	5(Sig)	0	20	Significant

Identifying Activities, Products & Services



Transportation Equipment Management

A typical process associated with transportation equipment management is vehicle maintenance

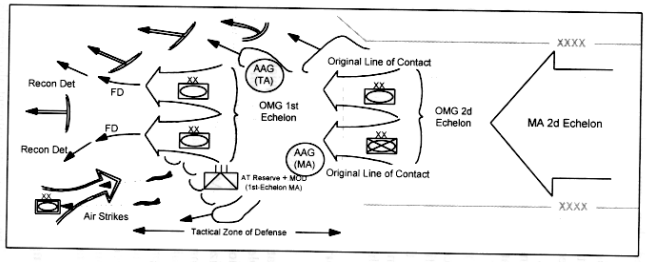
Activities – Mechanical repair & maintenance (Changing oil, lubricating chassis, replacing brake linings, rebuilding engines).
Products – Oil, solvents, grease, repair parts.
Services – Vehicle washing, operator maintenance training

Step 16
Identifying Activities, Products & Services

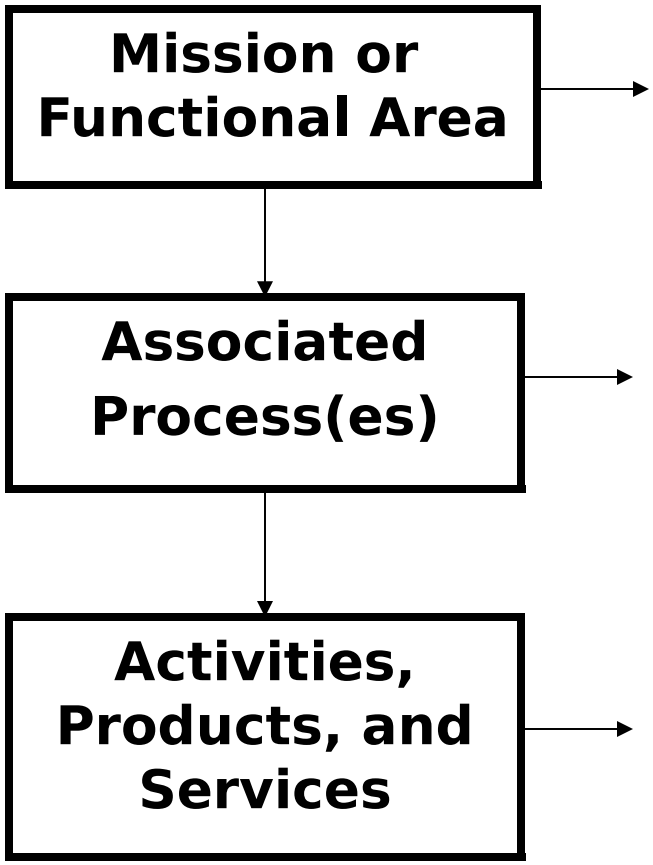
Mission or Functional Area

Associated Process(es)

Activities, Products, and Services



Identifying Activities, Products & Services



Base Operations

Processes required to support the missions & functions of assigned & tenant units & activities at the installation level (e.g. Providing & maintaining troop housing, providing drinking water, providing heat, treating wastewater, etc.)

Activities – Operating a wastewater plant, or drinking water plant, or a heating plant.
Products – Potable water, fossil fuels, chemicals.
Services – Electric power, water distribution, waste disposal, recycling.

Identifying Activities, Products & Services

Some Mission /Functional Areas

- Logistics Support
- Training - Range Operations
- Health & Medical Support
- Research, Development, Testing & Evaluation (RDT&E)

What are some of the processes associated with the above functional areas?

Identifying Activities, Products & Services

ISR Grouping: Small Arms Ranges			
ISR Sub-Grouping: Small Arms [With Fixed Firing Positions]			
Description: Any of a number of outdoor ranges used for practice and qualification in engaging targets with small arms weaponry from fixed firing positions.			
Note: Historical range usage should also be considered when determining potential impact to the environment.			
FCC Codes	**Facility Description**	**Primary Activity**	**Tasks**
75025	Skeet Field	Engage Targets with Small Arms Weaponry (pistol, rifle, machine gun). Munitions include small arms ammo up to .50 caliber, live.	
17813	Automated Rifle Range		
17814	Non-standard Small Arms Range		
17801	Basic 10M-25M Range (Zero)		
17802	Non-Automated Field-Fire Range		
17803	Automated Field-Fire Range		
17804	Non-automated Record-Fire Range		
17805	Automated Record-Fire Range		
17831	Machine Gun Transition Range		
17832	Machine Gun Field-Fire Range		
17833	Automated Multipurpose Machine Gun Range		
17893	Squad Defense Range		
		Ancillary Activities	**Tasks**
		Occupy the Range	Mounted movement and vehicle staging
			Other range activities (e.g., chow, sanitation)
		Establish Field ASP	Issue and reconcile munitions and collect containers
		Fueling Operations	

Methods to Identify Activities, Aspect and Impacts

- Brainstorming
- Physical Walk Through
- Employee Input, Questionnaire, Survey
- Review of Existing and Historical Planning Documents
- Process Flow Diagrams
- Installation GIS
- Real Property Inventory
- EPAS FAT List
- 80% Aspect Analysis (Implementation Guide)
- Installation Status Report
- Aspect and Impact Methodology for Army Training Ranges
- Army Training and Evaluation Program (ARTEPs) and Mission Training Plans

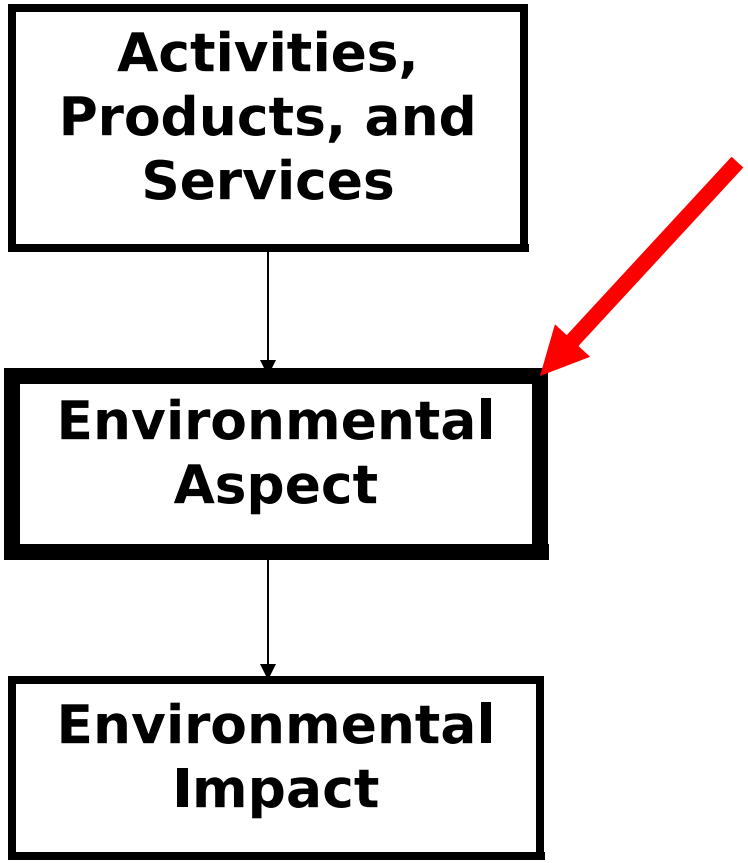
Step 16
Identifying Activities, Products & Services
Scoping the Effort

- Identify *major* processes & related activities, products & services
- Start with one or two mission/functional areas (e.g. Dir of Pub Works) and Build
- Spread work among CFT members with expertise in various functional areas
- Ensure the activities you list have lead to potential or direct impacts on the environment – Do not list activities that no or inconsequential impact on the environment.

Lesson Learned - Aggregate Activities That Can Be Evaluated Collectively

- Some activities occur consistently at the programmatic level across all ranges or even at the installation level.
- Can evaluate these activities collectively to minimize the amount of duplicative work being performed for each individual activity.
- Examples of *activities* that may be candidates for collective evaluation include:
  - Forestry management;
  - Spill management;
  - Agriculture outleasing management; and
  - Pesticide management.

Step 17
Identifying Environmental Aspects



Environmental Aspect

ISO 14001, paragraph 3.3:

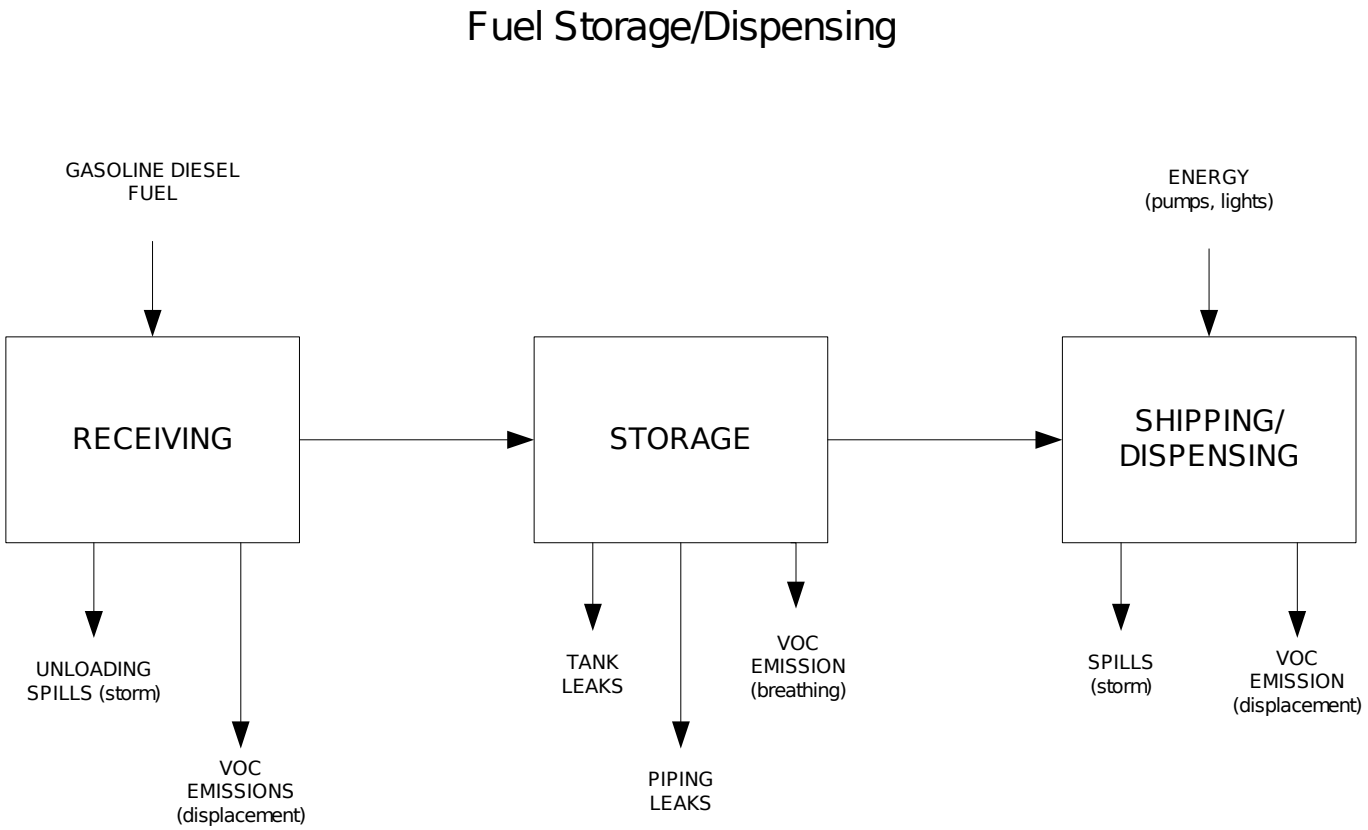
"Element of an organization's activities, products or services that can interact with the environment."

The Cause in a Cause and Effect Relationship

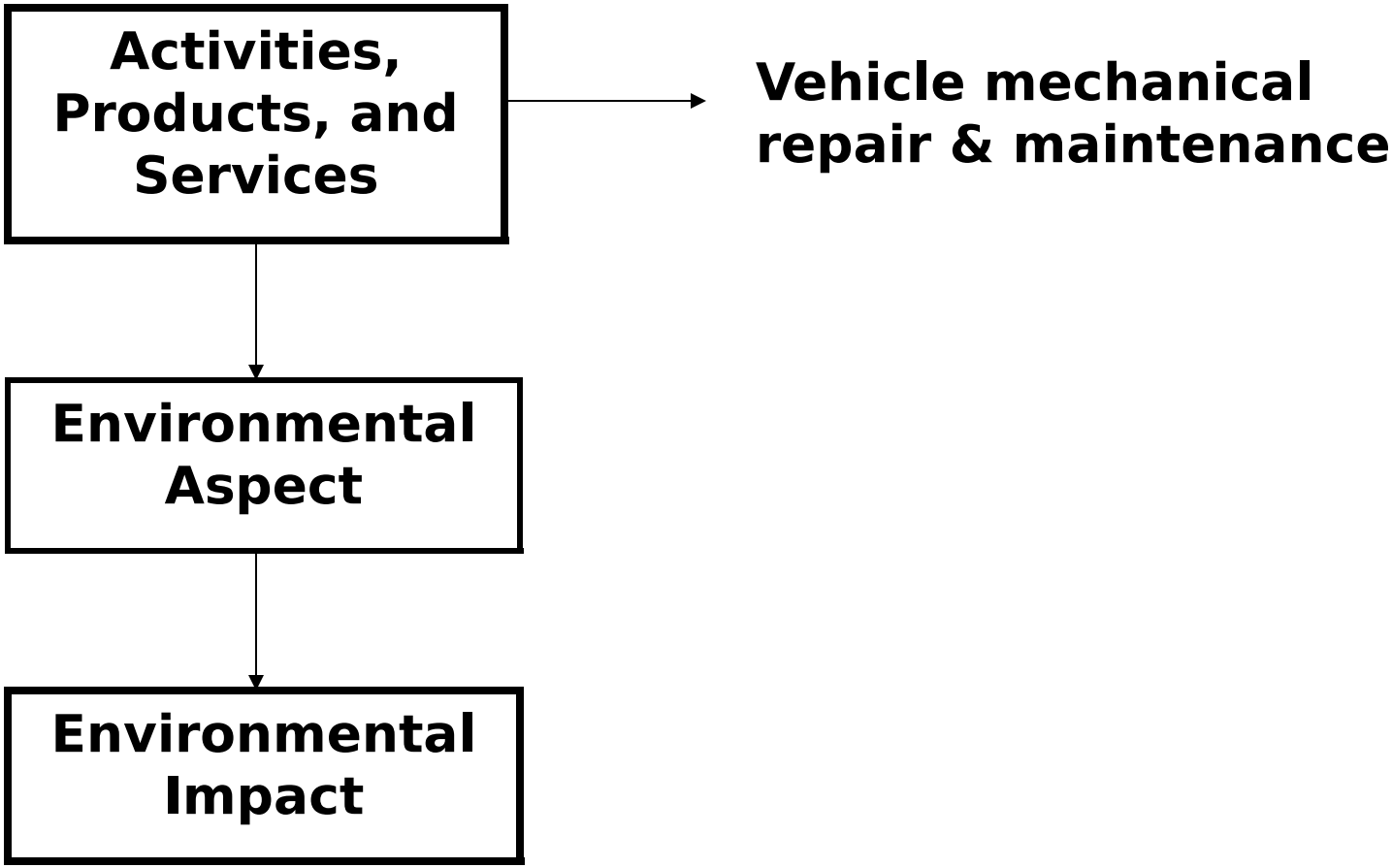
Step 17
Typical Environmental Aspects

1. Air Emissions *(Criteria Pollutants, HAPs, ODCs, etc.)*
2. Waste Generation *(hazardous, non hazardous, regulated medical waste)*
3. Uncontrolled Releases to Air, Water or Ground *(UXO, migration of munitions constituents, etc.)*
4. Spills
5. Release or Management of Toxics *(Asbestos, LBP, PCBs, etc.)*
6. Regular Discharges to Water *(Ind., Municipal, storm water, sediment, etc.)*
7. Interactions with Ecological Resources *(T&ES, vegetation, wetlands, wildlife, etc)*
8. Interactions with Cultural Resources *(hist prop, sacred sites, cemeteries, etc)*
9. Generation of Wave Form and Particle Energy (Noise & Vibration, Electro magnetic, Radioactive Isotopes, etc)
10. Energy Consumption and Conservation
11. Natural Resource and Raw Material Consumption or Conservation

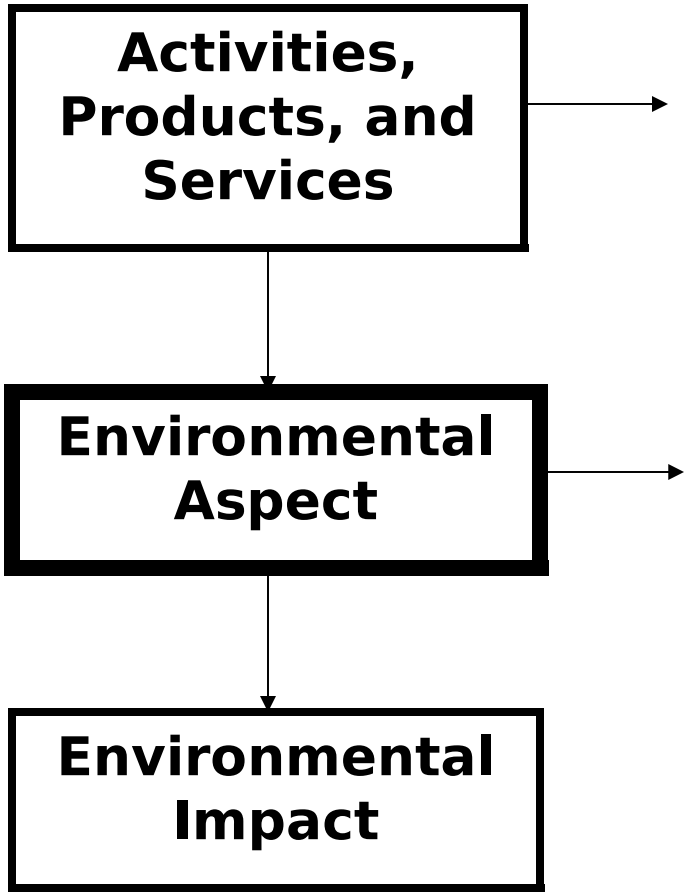
Step 17
Identifying Environmental Aspects



Step 17
Identifying Environmental Aspects



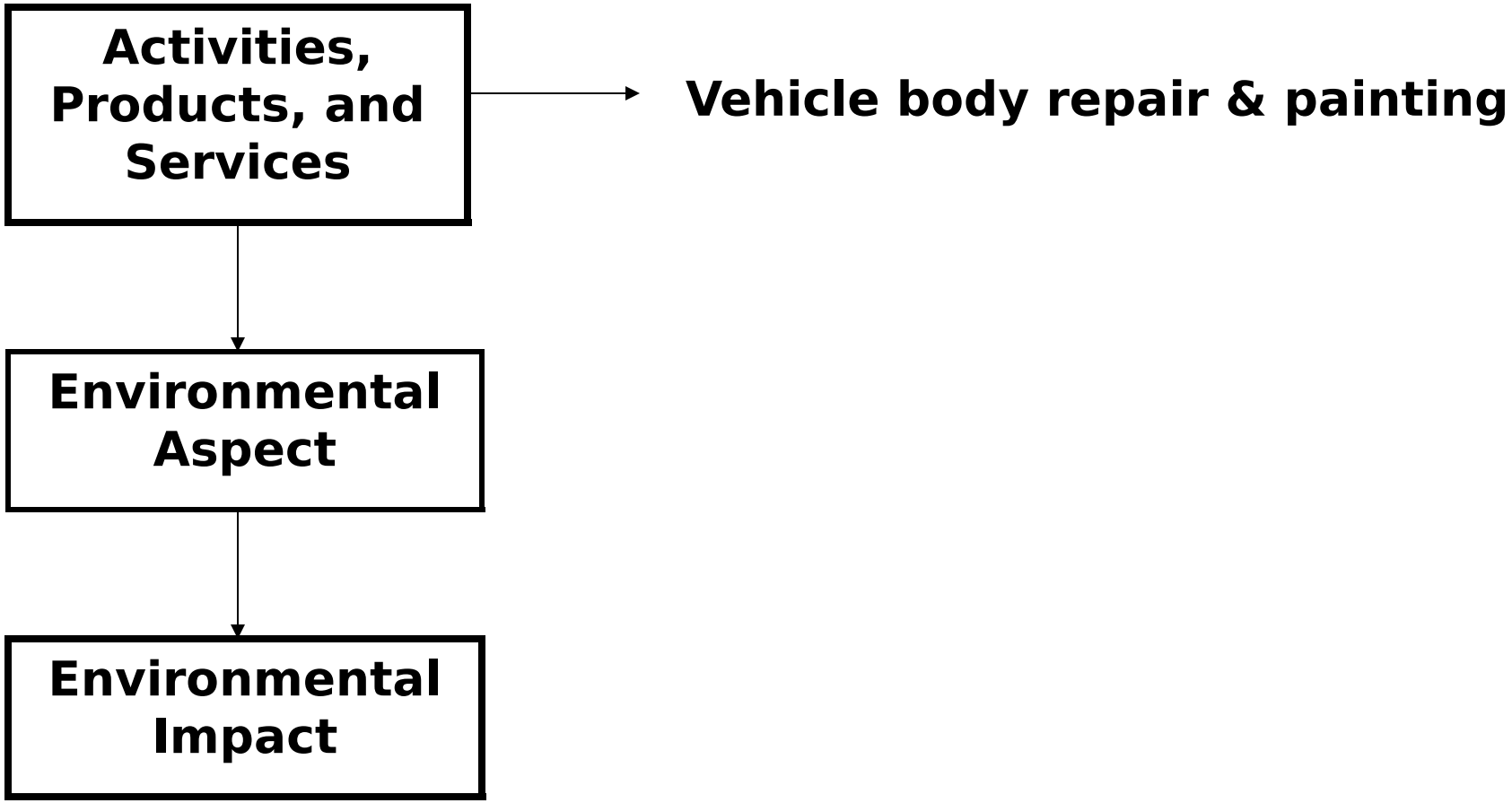
Step 17
Identifying Environmental Aspects



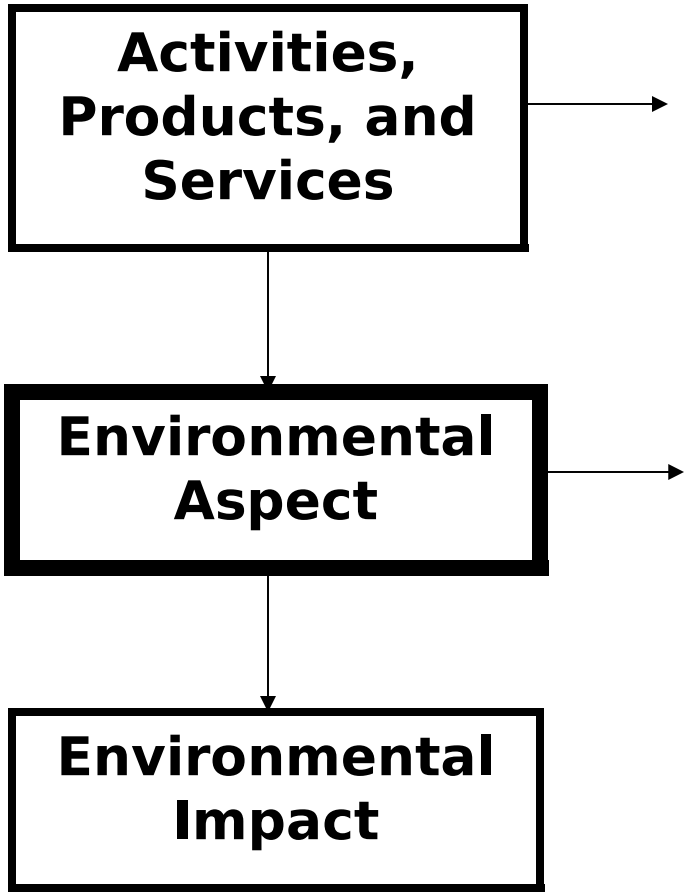
Vehicle mechanical repair & maintenance

- **Air emissions**
- **Generation of noise**
- **Waste generation**
- **Discharges, spills, or other releases to soil or surface or ground water**
- **Energy consumption**

Step 17
Identifying Environmental Aspects



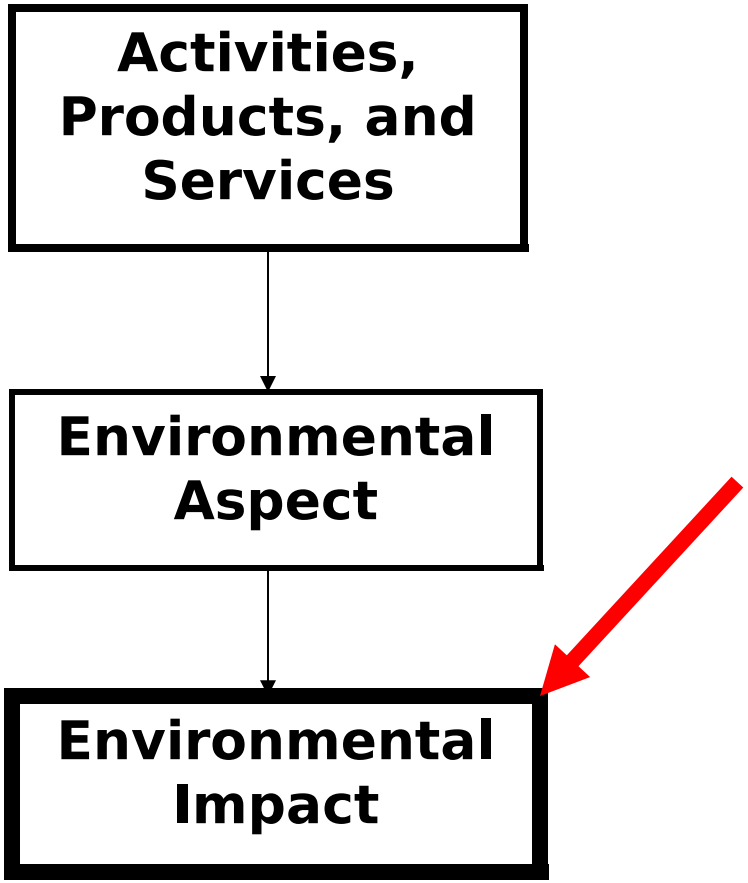
Step 17
Identifying Environmental Aspects



Vehicle body repair & painting

- **Air emissions**
- **Generation of noise**
- **Waste generation**
- **Discharges, spills, or other releases to soil or surface or ground water**
- **Energy consumption**

Step 18
Identifying Environmental Impacts



Range Activities and the Associated Aspects

A. Activities, Products, or Services	B. Environmental Aspects
1. FCC Code 17710 Infantry Lane 4 (Engage targets/ground fire)	➢ Ecological resource change (vegetation alteration) ➢ Ecological Resource Change (T&E species) ➢ Air Emission (veh. exhaust/smoke) ➢ Non hazardous waste generation (range/target scrap) ➢ Spills (POL) ➢ Air Emissions (weapons/munitions)
2. FCC Code 17803 Automated Record Fire Range 8 (Munitions impacts)	➢ Soil resource change
3. FCC Code 17868 Multi-Purpose Fire Range 24 (Engage Targets Aerial fire (Helo/A-10))	➢ Ecological Resource Change (T&E species) ➢ Ecological resource change (vegetation alteration) ➢ Uncontrolled releases (munitions constituents, UXO to water/soil) ➢ Spills (POL) ➢ Soil resource change ➢ Ecological resource change (hydrological alteration) ➢ Air Emissions (weapons/munitions)

Sort by Environmental Aspects

A. Environmental Aspect	B. Activities FCC Code 17868 – Multi Purpose Range
Air Emissions (weapons/munitions)	Use of pyrotechnics (smoke)
	Engage targets/ground fire
	Engage targets aerial fire (A-10, CAS)
Air Emissions (veh. exhaust/smoke)	Ingress/egress
Non hazardous waste generation (range/target scrap)	Management of target scrap on range
Spills (POL)	Occupy assembly/AAR area (MKT/GP Med)
	Fueling operations
Uncontrolled releases (munitions constituents, UXO to water/soil)	Engage targets/ground fire
	Engage targets aerial fire (Helo/A-10)
	UXO clearance/EOD support (targets/road)
Ecological alteration (vegetation alteration)	Engage targets/ground fire
	Aerial hovering
Ecological alteration (hydrological alteration)	Maintain stream crossing
Soil alteration	Vehicle maneuver (track/wheels)
	Occupy assembly/AAR area (MKT/GP Med)
	Engage targets/ground fire
Ecological alteration (T&E species)	Engage targets/ground fire
	Engage targets/ground fire

Determining Aspects that can be Evaluated Collectively

- Common aspects that may originate in similar or dissimilar activities may also be considered collectively.
- Good candidates for collective evaluation are those where the programs that control the aspect are standardized across the entire installation and are not range or site specific
- Others may include aspects where the geographic scale of the impact (environmental receptors) is not unique to a particular range
- Examples of aspects that may be candidates for collective evaluation include:
  - Air emissions – ozone depleting substances
  - Energy consumption and conservation; and
  - Natural resource and raw material consumption and conservation

Environmental Aspect Controllability

- ISO 14001 - only identify those aspects that an organization "can control and over which it can be expected to have influence"
- Some issues cannot be controlled at the installation level, but can be by the Army as a whole
- Installations should **capture all aspects** regardless of controllability at their level
- These aspects can be managed by passing the installation requirements to higher HQ
- Programs such as the Environmental Quality Technology (EQT) and Acquisition can leverage these requirements when focusing future technology development

Environmental Impact

ISO 14001, paragraph 3.7:

"Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products, or services."

The Effect in a Cause and Effect Relationship

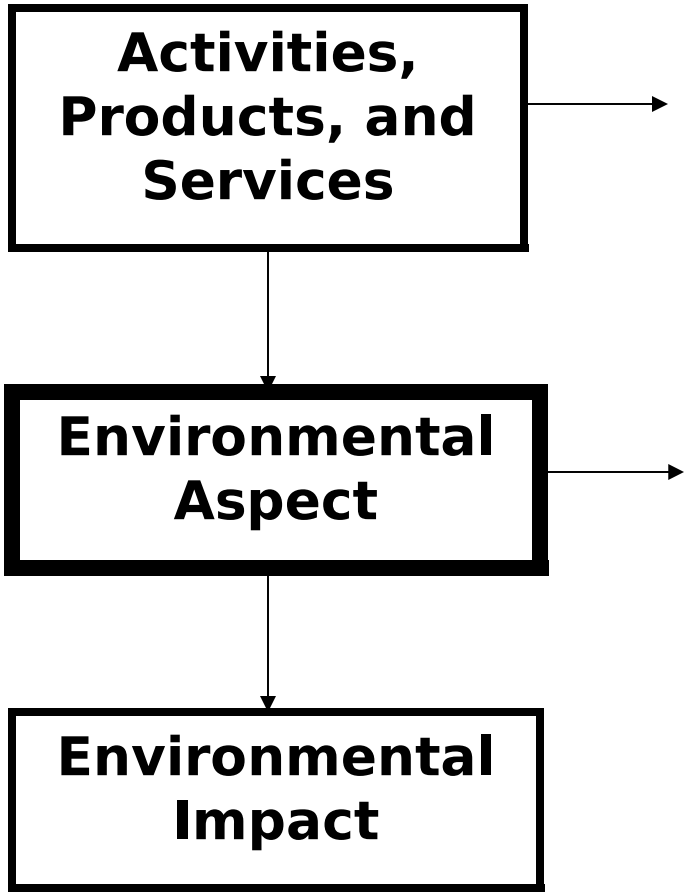
Step 18
Sample Environmental Impacts

- Air pollution
- Community disturbance
- Degradation / enhancement of water quality
- Depletion / enhancement of an aquifer
- Destruction / enhancement of habitat
- Destruction / protection of archeological resources
- Destruction / protection of Native American resources
- Disturbance / enhancement of habitat
- Ecological damage
- Exposures to non-target organisms
- Groundwater contamination
- Historic property protection
- Hydrology alterations
- Impact on species and habitat
- Improper management of natural resources
- Improper storage / disposal of waste
- Increased runoff / stream flow
- Introduction/removal of non-native species
- Landfill depletion
- Light pollution
- Loss of public access to cultural sites
- Loss of T&E species
- Migration of indigenous species
- Mismanagement of pesticides
- Mismanagement of spills
- Mismanagement of toxics
- Recycling of waste
- Reduced visibility
- Sedimentation of water courses
- Soil compaction
- Soil contamination
- Species/ habitat alteration/ disturbance
- Surface water contamination
- Sustainment / use of timber, minerals and grazing lands
- Thermal signature
- Use / conservation of energy
- Use of renewable energy sources
- Water erosion
- Watershed alterations
- Wind erosion

Identification of Positive Environmental Impacts

- ISO 14001 encourages identification of both “adverse and beneficial environmental impacts”
- Positive impacts should be identified so that they can be incorporated into environmental management programs and systematically managed
- Positive impacts should actually improve the environment, and not just be the minimization of a negative impact

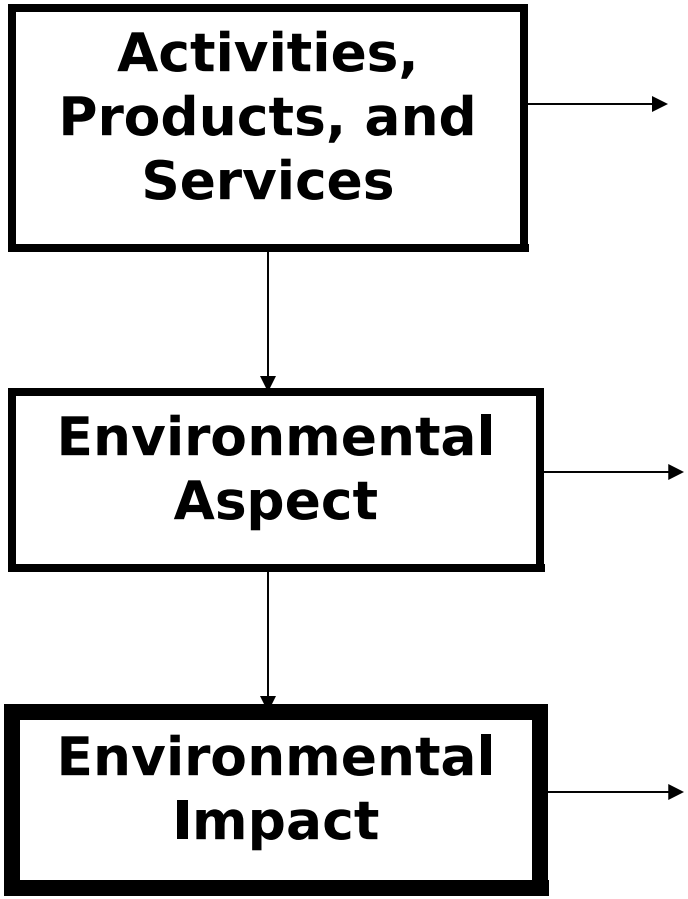
Step 18
Identifying Environmental Impacts



Vehicle mechanical repair & maintenance

- **Air emissions**
- **Generation of noise**
- **Waste generation**
- **Discharges, spills, or other releases to soil or surface or ground water**
- **Energy consumption**

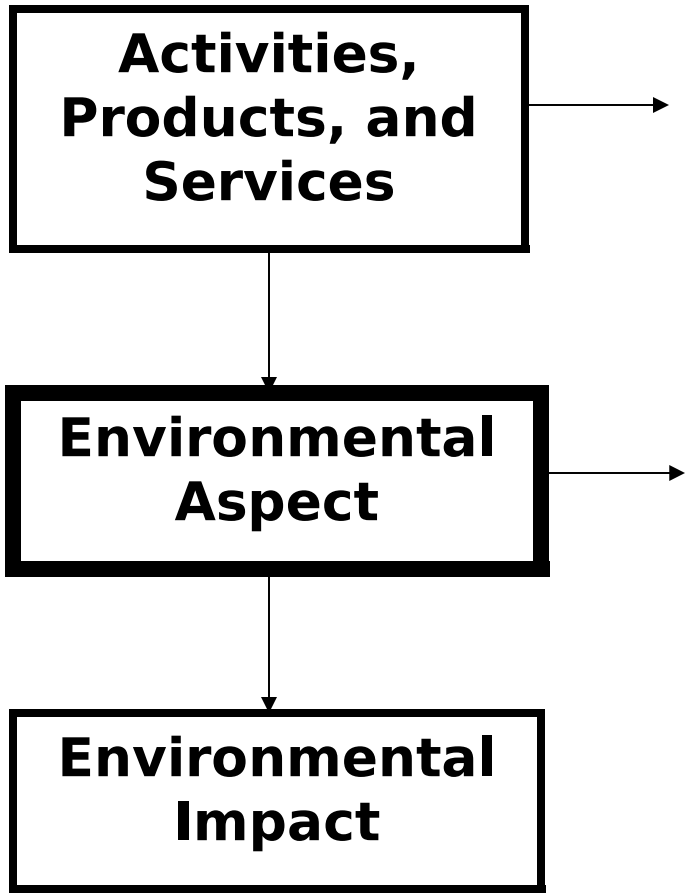
Step 18
Identifying Environmental Impacts



Vehicle mechanical repair & maintenance

- **Air emissions**
- **Generation of noise**
- **Waste generation**
- **Discharges, spills, or other releases to soil or surface or ground water**
- **Energy consumption**
- **Air pollution**
- **Surface & ground water contaminati**
- **Nuisances to surrounding community**
- **Natural resource alteration**
- **Energy source depletion**

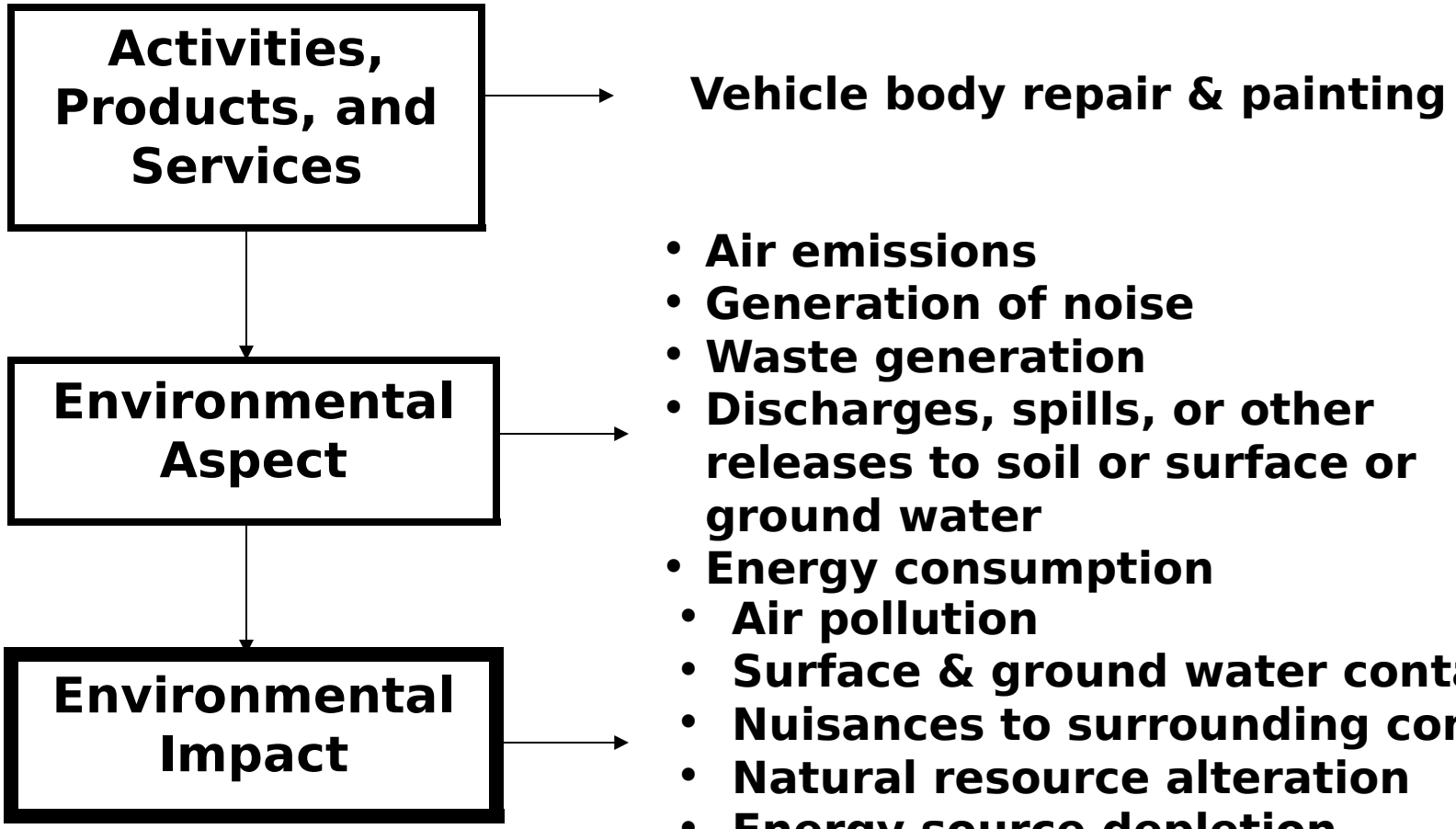
Step 18
Identifying Environmental Impacts



Vehicle body repair & painting

- **Air emissions**
- **Generation of noise**
- **Waste generation**
- **Discharges, spills, or other releases to soil or surface or ground water**
- **Energy consumption**

Step 18
Identifying Environmental Impacts


Activities, Products, and Services
Vehicle body repair & painting
Environmental Aspect
• Air emissions
• Generation of noise
• Waste generation
• Discharges, spills, or other releases to soil or surface or ground water
• Energy consumption
Environmental Impact
• Air pollution
• Surface & ground water contaminati
• Nuisances to surrounding communit
• Natural resource alteration
• Energy source depletion

Identification of Environmental Impacts

A. Environmental Aspect	B. Activities FCC Code 17868 – Multi Purpose Range	C. Environmental Impact
Air Emissions (weapons/munitions)	Use of pyrotechnics (smoke)	Air pollution (particulates)
	Engage targets/ground fire	Air pollution (toxics)
	Engage targets aerial fire (A-10, CAS)	Air pollution (toxics)
Air Emissions (veh. exhaust/smoke)	Ingress/egress	Air pollution (CO2)
Non hazardous waste generation (range/target scrap)	Management of target scrap on range	Soil contamination
Spills (POL)	Occupy assembly/AAR area (MKT/GP Med)	Soil contamination
		Water contamination
		Improper disposal of waste
	Fueling operations	Soil contamination
		Water contamination
		Improper disposal of waste
Uncontrolled releases (munitions constituents, UXO to water/soil)	Engage targets/ground fire	Soil contamination
		Water contamination
	Engage targets aerial fire (Helo/A-10)	Soil contamination
		Water contamination
	UXO clearance/EOD support (targets/road)	Soil contamination
		Water contamination
Ecological alteration (vegetation alteration)	Engage targets/ground fire	Habitat disturbance
	Aerial hovering	Vegetation alteration
Ecological alteration (hydrological alteration)	Maintain stream crossing	Water contamination (sediment)
		Disturbance to species
		Stormwater reduction (stream buffer)
Soil alteration	Vehicle maneuver (track/wheels)	Sediment loading to streams
	Occupy assembly/AAR area (MKT/GP Med)	Erosion
		Sediment loading to streams
	Engage targets/ground fire	Erosion
		Sediment loading to streams
Ecological alteration (T&E species)	Engage targets/ground fire	Disturbance to species
	Engage targets/ground fire	Disturbance to species

Step 19
Identify Significant Environmental Aspects

Significant aspects are simply those that you determine to have significant impacts on the mission or the environment

Complete Aspects & Impacts Analysis by 30 March 2005

Step 19
Identify Significant Environmental Aspects

ISO 14001, paragraph 4.3.1:

"The organization shall establish, implement and maintain (a) procedure(s) to identify the environmental aspects of its activities, products or services that it can control and over which it can be expected to have an influence, in order to determine those which have or can have significant impacts on the environment."

Step 19
Identify Significant Environmental Aspects

- Recommend using a numerical rating system
  - Identify rating factors (considerations)
  - Define numerical ratings
  - Determine a score for each impact
  - Rank impacts based on score
- Determine significance using a combination of objective and/or subjective judgments

Step 19
Identify Significant Environmental Aspects

Example Rating Factors

- Frequency or likelihood
- Environmental Impact severity
- Mission impact severity
- Regulatory status
- Community concerns

Limit the number of rating factors

Army eMS Implementation

eMS is a Core Component of the New Army Strategy for the Environment

*"We must strive to become systems thinkers if we are to benefit from the interrelationships of the **triple bottom line** of sustainability: mission, environment, and community."*

– R. L. Brownlee, Acting Secretary of the Army

– Peter J. Schoomaker, General, United States Army, Chief of Staff

"We must strive to become systems thinkers if we are to benefit from the interrelationships of the triple bottom line of sustainability: mission, environment, and community."
– R. L. Brownlee, Acting Secretary of the Army
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MISSION
ENVIRONMENT
COMMUNITY
U.S.ARMY
FOR MORE INFORMATION ABOUT THE ARMY STRATEGY FOR THE ENVIRONMENT, CONTACT:
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY
FOR INSTALLATIONS AND ENVIRONMENT
110 Army Pentagon, Room 3E464, Washington, DC 20310-0110
https://www.asaie.army.mil
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Step 19
Identify Significant Environmental Aspects Likelihood

Scoring Scale	Likelihood Considerations
5 = Continuous (Ongoing or Daily) **4 = Frequent** (Weekly) **3 = Infrequent** (Monthly) **2 = Seldom** (Quarterly) **1 = Unlikely** (Yearly or Longer)	➢ Frequency of the activity. How often is this activity repeated? ➢ Frequency of the Aspect. How often does the environmental aspect occur given the frequency of this activity? ➢ What is the probability that any one instance of the environmental aspect will result in an environmental impact? ➢ What programs and controls are currently in place that reduce the likelihood of this impact from occurring?

Likelihood: Refers to how often an environmental impact can be expected to occur. It incorporates both the probability that an impact will occur within each repetition of the aspect, as well as the frequency of the aspect.

Identify Significant Environmental Aspects
Environmental Impact Scale

Environmental Impact Scale *(i.e. If the impact were to actually occur, what would be the severity?)*	**Environmental Impact Considerations** *These general characteristics should be taken into account when determining environmental impact*
5 = Severe / catastrophic – very harmful or potentially fatal; great effort to correct and recover **4 = Serious** – harmful but not potentially fatal, difficult to correct but recoverable **3 = Moderate** – somewhat harmful, correctable **2 = Mild** – little potential for harm **1 = Insignificant** – trivial harm / consequence	➢ **Hazard:** The relative hazard that the impact may have on the environment (e.g. including attributes such as toxicity, exposure routes in the environment, mobility of a compound in the environment, persistence or bioaccumulation, etc.). ➢ **Quantity:** Generally the amount of the agent causing the impact (e.g. quantity of pollutant emitted, gallons of water consumed, etc). ➢ **Duration:** Pertains to the length of time that the environmental impact will be felt by affected entities (e.g. Noise impacts are generally short term while contamination of an aquifer with lead or perchlorate generally creates a long term impact). ➢ **Geographic Boundaries:** Reflects the size of the physical area in which the impact occurs (e.g. a 10 gallon diesel spill may affect a few cubic feet of soil while contamination of a local river with sediment or pollutants may impact the ecosystem of an entire watershed). ➢ **Proximity of impact to people or sensitive environmental receptors or targets:** consider the closeness of the impact to sensitive environmental receptors such as those listed below: o **Cultural resources:** Threatens (i.e., mild or moderate), disturbs / damages (i.e., serious) or destroys (i.e., severe) historic properties, cultural landscapes, cultural items, archeological resources, Indian sacred sites, cemeteries, etc. o **Natural / ecological resources:** Threatens (i.e., mild or moderate), alters (i.e., moderate or serious) or destroys (i.e., severe) sensitive natural and ecological resources such as wetlands, threatened & endangered species, critical habitats, sole source aquifers, etc. o **People:** Poses acute (i.e., severe), chronic (i.e., serious or moderate), or temporary (i.e., mild or insignificant) risks to human health because of the impact's proximity to schools, public stakeholders, troops, hospitals, housing, recreational areas, drinking water, etc.

If the <u>impact</u> were to actually occur, what will be the probable environmental consequence?

Identify Significant Environmental Aspects
Mission Impact Scale

Training Impact Scale *(i.e. If the environmental impact were to actually occur, what would be the training impact?)*	**Training Impact Considerations** *These general training restrictions should be taken into account when determining the training impact score.*
5 = Loss of ability to accomplish training *(Automatically Significant)*	➢ **Training Area Restrictions** - Range / training lands off-limits to training activities. ➢ **Activity Restrictions** - Driving, digging positions, use of smoke etc, off limits due to environmental restrictions. ➢ **Intensity Restrictions** - Number of times an activity may be repeated is restricted due to environmental restrictions. ➢ **Duration Restrictions** - Environmental restrictions have limited how often an activity may be repeated. ➢ **Permanent Deactivation of the Range** - Range or training land removed from active use due to environmental issues. ➢ **Temporary Rehabilitation of the Range** - Loss of total range or training land temporarily for the purposes of rehabilitation (UXO, scrap cleanup). ➢ **Mission Essential Task List (METL) Accomplishment -** Environmental Restrictions that prevent training METL tasks to standard, or force METL tasks to be trained at another installation or training site. ➢ **The Availability of Alternative Facilities / Ranges** – Training can occur on a tactically equivalent range ➢ **Introduction of Procedures That Are Non Standard and Incompatible with Mission Training Plans (MTP)** – Environmental restrictions or requirements cause "work arounds" or introduce behaviors that are not compatible with training requirements ➢ **Future Training Restrictions –** Will lead to restrictions of known or potential future missions (i.e. post transformation, new weapon systems, future restationing of units, etc.) ➢ **Costs** – Diversion of mission dollars to fund mitigation of environmental issues. ➢ **Personnel** - Diversion of mission personnel labor to mitigate environmental issues.
4 = Serious training restrictions / impacts *(Automatically Significant)*	
3 = Moderate training restrictions / impacts	
2 = Minor training restrictions / impacts	
1 = Insignificant training restrictions / impacts	
0 = No training restrictions / impacts	

If the <u>impact</u> were to actually occur, what will be the probable <u>mission consequences</u>?

Identify Significant Environmental Aspects
Regulatory Status

Regulatory Status Scale
5 = Regulated – Mandated by a Federal, host nation, state or local government agency *(Automatically Significant)*
4 = DoD / Army policy – Required by Army / DoD regulation or policy
3 = Regulated in the future – not currently mandated by a government agency, but is either under published proposal or approaching a regulatory threshold
2 = Army-Wide Best Management Practice or Guidance
1 = Facility Best Management Practice
0 = No Applicable Requirements

If the impact were to actually occur, what would the regulatory ramifications be?

Identify Significant Environmental Aspects
Community Concern

Community Concern Scale	Community Concern Considerations *These general considerations should be taken into account when determining the community concern score*
4 = Public anger / lawsuits	➢ Lawsuits ➢ Obstruction efforts ➢ Number and scope of community complaints ➢ Negative / positive press coverage ➢ Citizen generated congressional or regulator interest ➢ Level of constructive interaction with the community
3 = Serious community concern	
2 = Some community concern	
1 = Community is unconcerned but could easily become concerned	
0 = Community not likely to become concerned	

If the <u>impact</u> were to actually occur, what will be the probable <u>community response</u>?

Step 19
Identify Significant Environmental Aspects
Calculating the Impact Score

For this example the impact significance score (SS) is calculated as follows:

SS = Frequency x (Environmental Impact Severity + Mission Impact Severity) + Regulatory Status + Community Concern

Applying the maximum possible score for each factor results in:

[5 x (5 + 5) + 5 + 4] = 59

Step 19
Identify Significant Environmental Aspects
What do I do with this Information?

- Sort all impact SS from high to low & draw a cut line at some SS (e.g. SS = 20)
- Cut line should be established taking into account resource levels
- Look at scores for individual criteria to determine significance (e.g. a score of 4 or higher for mission impact)
- If an impact is regulated by state or federal law it is considered significant regardless of numerical score

Determination of Significant Aspects

If ANY of these three criteria are met, the aspect should be considered "significant":

1. Overall Impact Score is greater than an installation determined cutoff (Table 10, column I) –*This will vary considerably on an installation-by-installation basis.*
2. Mission Impact Score of "4" or "5" (in Table 10, column F)
3. Regulatory Status Score of "5" (in Table 10, column G)

Identification of Cumulative Environmental Impacts

- Analysis of cumulative impacts is encouraged
- When evaluating environmental impacts on an individual basis, easy to lose site of the big picture.
- Look across all of the “non-significant” impacts to ensure that there are no common aspects that taken as a whole, need to be managed
- Sanity check against any installation sustainability initiatives in place

Evaluating Cumulative Environmental Impacts

- Review list and group identical impacts
  - Individually impacts may be minimal, but cumulative effect may be significant
  - Look at installation-wide impacts
- Typical cumulative impacts
  - Air emissions from small individual sources (i.e. housing heating units)
  - Storm water discharges to a common receiving stream
- Many permits based on cumulative impact on the environment
  - CAA Title V permits
  - CWA NPDES permits

Army eMS Implementation

Criteria for Determining Significance

A. Environmental Aspect	B. Activities, Products, or Services	C. Environmental Impact	D. Likelihood (1-5)	E. Environmental Consequence (1-5)	F. Mission Impact (0-5)	G. Regulatory Status (0-5)	H. Community Concerns (0-4)	I. Overall Impact Score *Sum((DxE) + (DxF) + G + H)*	J. Overall Significance
Non hazardous waste generation (range/target scrap)	FCC Code 17710 Infantry Lane 4 Management of Target Scrap on Range	Soil Contamination	5	3	1	5 (Sig)	0	25	Significant
Uncontrolled releases (munitions constituents, UXO to water/soil)	FCC Code 17868 Multi-Purpose Fire Range 24 Engage Targets/Ground fire	Soil contamination	4	3	5 (Sig)	5(Sig)	3	40	Significant
		Water contamination	2	2	1	5(Sig)	0	11	Significant
	FCC Code 17868 Multi-Purpose Fire Range 24 Engage Targets Aerial fire (Helo/A-10)	Soil contamination	3	3	5 (Sig)	5(Sig)	3	32	Significant
		Water contamination	2	2	1	3	0	9	
	FCC Code 17868 Multi-Purpose Fire Range 24 UXO Clearance/EOD Support (Targets/Road)	Soil contamination	2	2	5 (Sig)	3	3	20	Significant
		Water contamination	1	2	1	3	0	6	
Ecological resource change (vegetation alteration)	FCC Code 17710 Infantry Lane 4	Habitat disturbance	1	1	0	0	0	1	
	FCC Code 17868 Multi-Purpose Fire	Vegetation Alteration	2	2	1	2	0	8	
Ecological resource change (hydrological alteration)	FCC Code 17868 Multi-Purpose Fire Range 24 Maintain Stream Crossing	Water contamination	1	2	1	3	0	6	
		Disturbance to Species	2	3	5 (Sig)	4	1	21	Significant
		Stormwater reduction (stream buffer)	POS.	POS.	POS.	POS.	POS.	POS.	***POSITIVE***
Soil resource change	FCC Code 17868 Multi-Purpose Fire Range 24 Vehicle Maneuver (Track/wheels)	Sediment Loading to streams	3	3	5 (Sig)	3	0	27	Significant
	FCC Code 17868 Multi-Purpose Fire Range 24 Munition impacts	Erosion	5	3	3	5(Sig)	0	35	Significant
		Sediment Loading to	2	3	5 (Sig)	5(Sig)	0	21	Significant
	FCC Code 17803 Automated Record Fire Range 8 Munition impacts	Erosion	4	2	3	5(Sig)	0	25	Significant
		Sediment Loading to streams	3	2	3	5(Sig)	0	20	Significant

Significant Environmental Aspects

Environmental Aspect	Activities, Products, or Services	Environmental Impact	Overall Impact Score	Overall Significance
Non hazardous waste generation (range/target scrap)	FCC Code 17710 Infantry Lane 4 Management of Target Scrap on Range	Soil Contamination	**25**	**Significant**
Uncontrolled releases (munitions constituents, UXO to water/soil)	FCC Code 17868 Multi-Purpose Fire Range 24 Engage Targets/Ground fire	Soil contamination	**40**	**Significant**
		Water contamination	**11**	**Significant**
	FCC Code 17868 Multi-Purpose Fire Range 24 Engage Targets Aerial fire (Helo/A-10)	Soil contamination	**32**	**Significant**
	FCC Code 17868 Multi-Purpose Fire Range 24 UXO Clearance/EOD Support (Targets/Road)	Soil contamination	**22**	**Significant**
Ecological resource change (hydrological alteration)	FCC Code 17868 Multi-Purpose Fire Range 24 Maintain Stream Crossing	Disturbance to Species	**21**	**Significant**
Soil resource change	FCC Code 17868 Multi-Purpose Fire Range 24 Vehicle Maneuver (Track/wheels)	Sediment Loading to streams	**29**	**Significant**
	FCC Code 17868 Multi-Purpose Fire Range 24 Munition impacts	Erosion	**35**	**Significant**
		Sediment Loading to	**21**	**Significant**
	FCC Code 17803 Automated Record Fire Range 8 Munition impacts	Erosion	**25**	**Significant**
		Sediment Loading to streams	**20**	**Significant**

Lessons Learned

- Keep it simple – where it makes sense, aggregate like activities and tasks
- Use the Appendices provided, but don't let them lead to "group think" or stifle original thought into installation specifics
- Reference "significance" tables throughout the analysis as they will help to ensure that results are consistent
- Think broadly - don't focus solely on those issues that are regulated
- Keep consistency in the cross functional team
- There is some inherent subjectivity in this analysis – so don't let it bog down consensus building process

Training Range Methodology Background

- The eMS *aspects and impacts methodology for training ranges* is the product of a collaborative effort by ARSIC working group
  - G-3
  - ATSC
  - ODEP
  - AEC
  - IMA
- Use of an eMS is consistent with the principles adopted in the SRPP

Methodology Chronology and Status

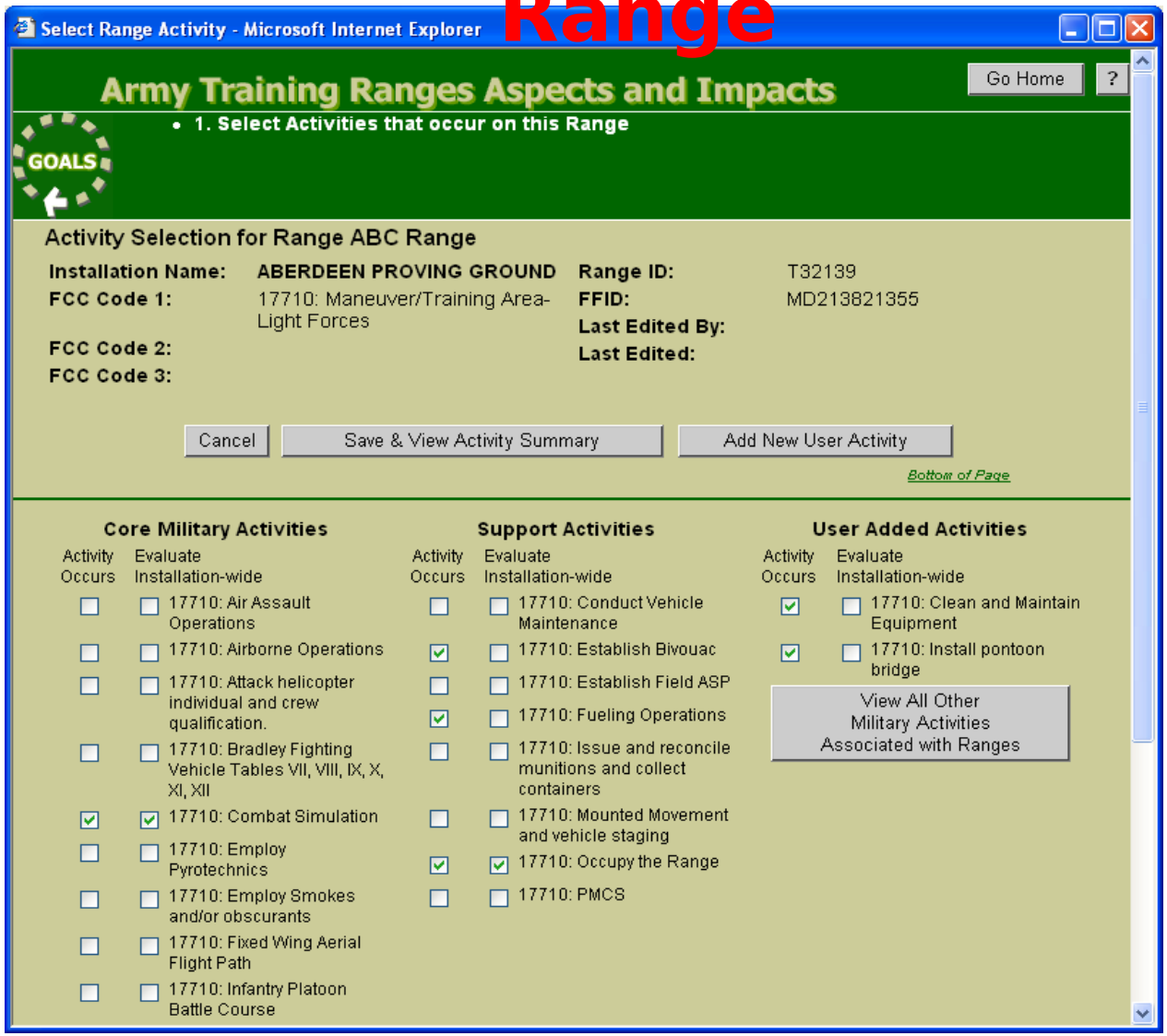
- Project start-up [Jan 03]
- Draft review by ARSIC WG members [May 03]
- Completed field trials at (4) installations [Mar – Aug 03]
- Finalized Methodology and Obtained ARSIC Concurrence to Distribute (Dec 03)
- Revised methodology out for review [Jan - Feb 04]
- ACSIM endorsement of Methodology - distributed to Army [May 04]
- Automation of Methodology [Sep 04 – Mar 05]

eMS and the SRPP

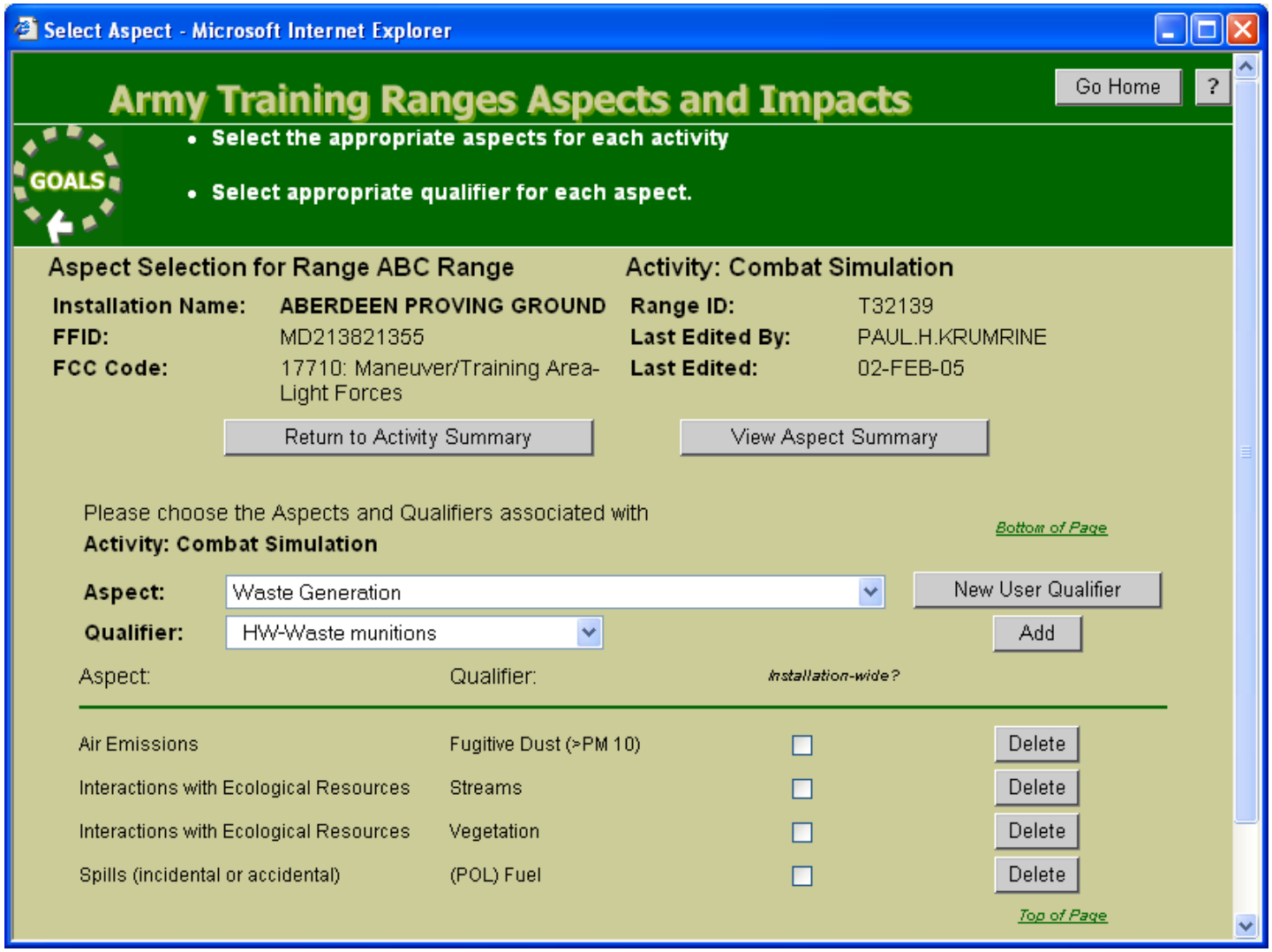
Key Requirements:

- Implement eMS on ranges as component of Installation eMS
- Directs DPTM/Range Officer participation on the EQCC and in the implementation of the eMS.
- Directs Garrison Commander to work with Senior Mission Commander to implement eMS

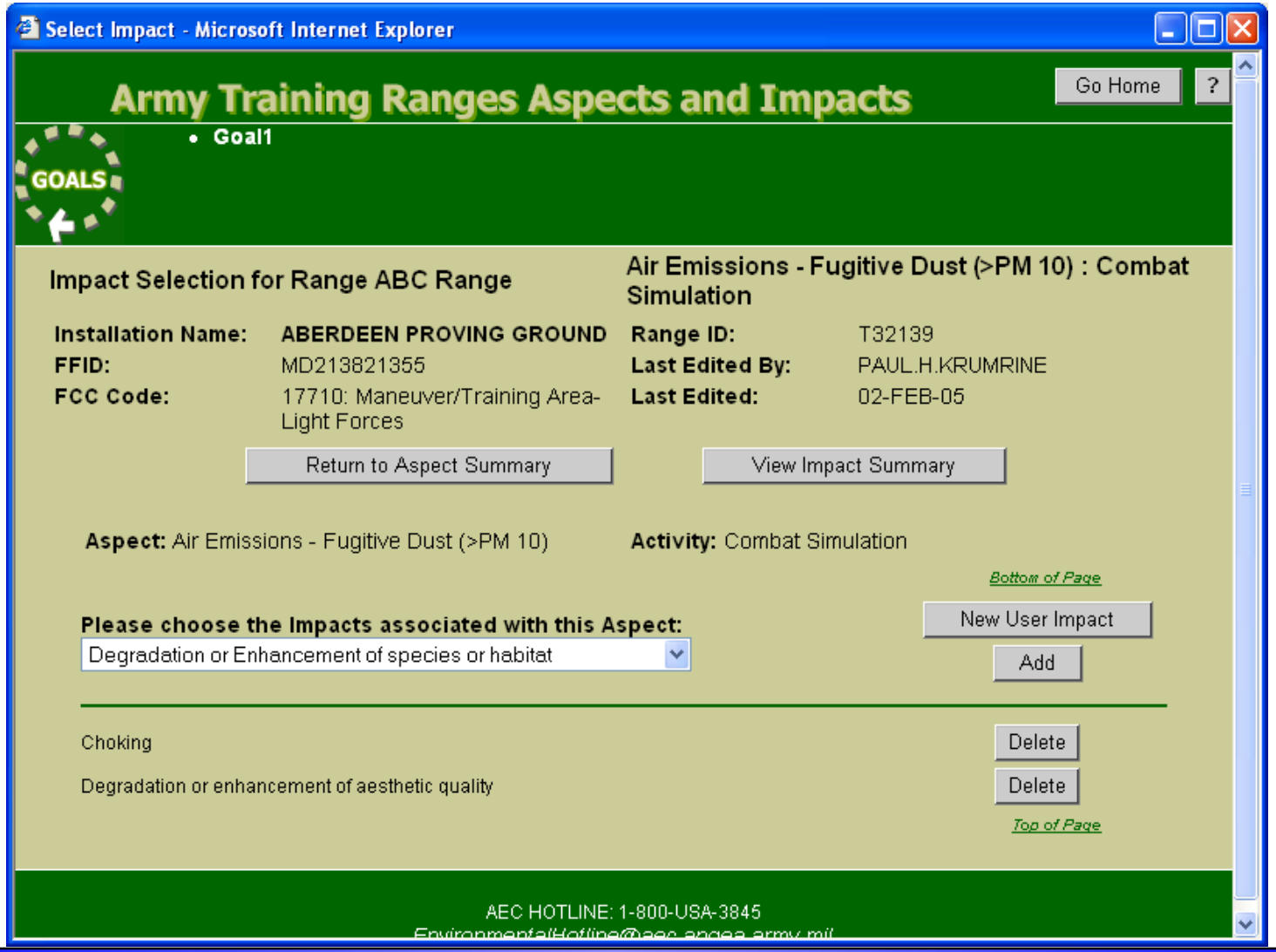
Easily Select Activities on the Range


Select Range Activity - Microsoft Internet Explorer
Army Training Ranges Aspects and Impacts
Go Home
?
GOALS
• 1. Select Activities that occur on this Range
Activity Selection for Range ABC Range
Installation Name: ABERDEEN PROVING GROUND
FCC Code 1: 17710: Maneuver/Training Area-Light Forces
FCC Code 2:
FCC Code 3:
Range ID: T32139
FFID: MD213821355
Last Edited By:
Last Edited:
Cancel
Save & View Activity Summary
Add New User Activity
Bottom of Page
Core Military Activities
Activity Occurs
Evaluate Installation-wide
17710: Air Assault Operations
17710: Airborne Operations
17710: Attack helicopter individual and crew qualification.
17710: Bradley Fighting Vehicle Tables VII, VIII, IX, X, XI, XII
17710: Combat Simulation
17710: Employ Pyrotechnics
17710: Employ Smokes and/or obscurants
17710: Fixed Wing Aerial Flight Path
17710: Infantry Platoon Battle Course
Support Activities
Activity Occurs
Evaluate Installation-wide
17710: Conduct Vehicle Maintenance
17710: Establish Bivouac
17710: Establish Field ASP
17710: Fueling Operations
17710: Issue and reconcile munitions and collect containers
17710: Mounted Movement and vehicle staging
17710: Occupy the Range
17710: PMCS
User Added Activities
Activity Occurs
Evaluate Installation-wide
17710: Clean and Maintain Equipment
17710: Install pontoon bridge
View All Other Military Activities Associated with Ranges

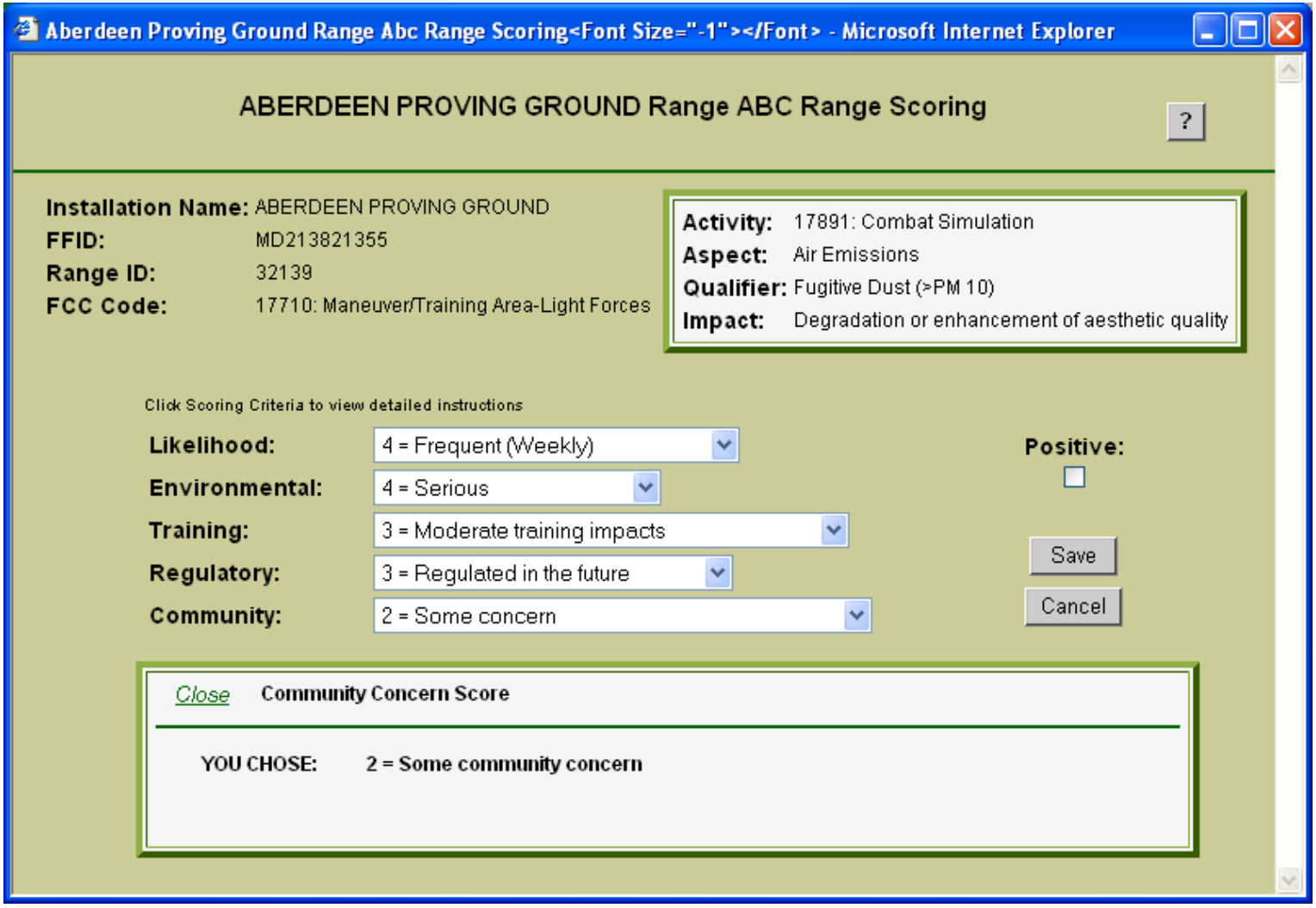
Associate Aspects to an Activity



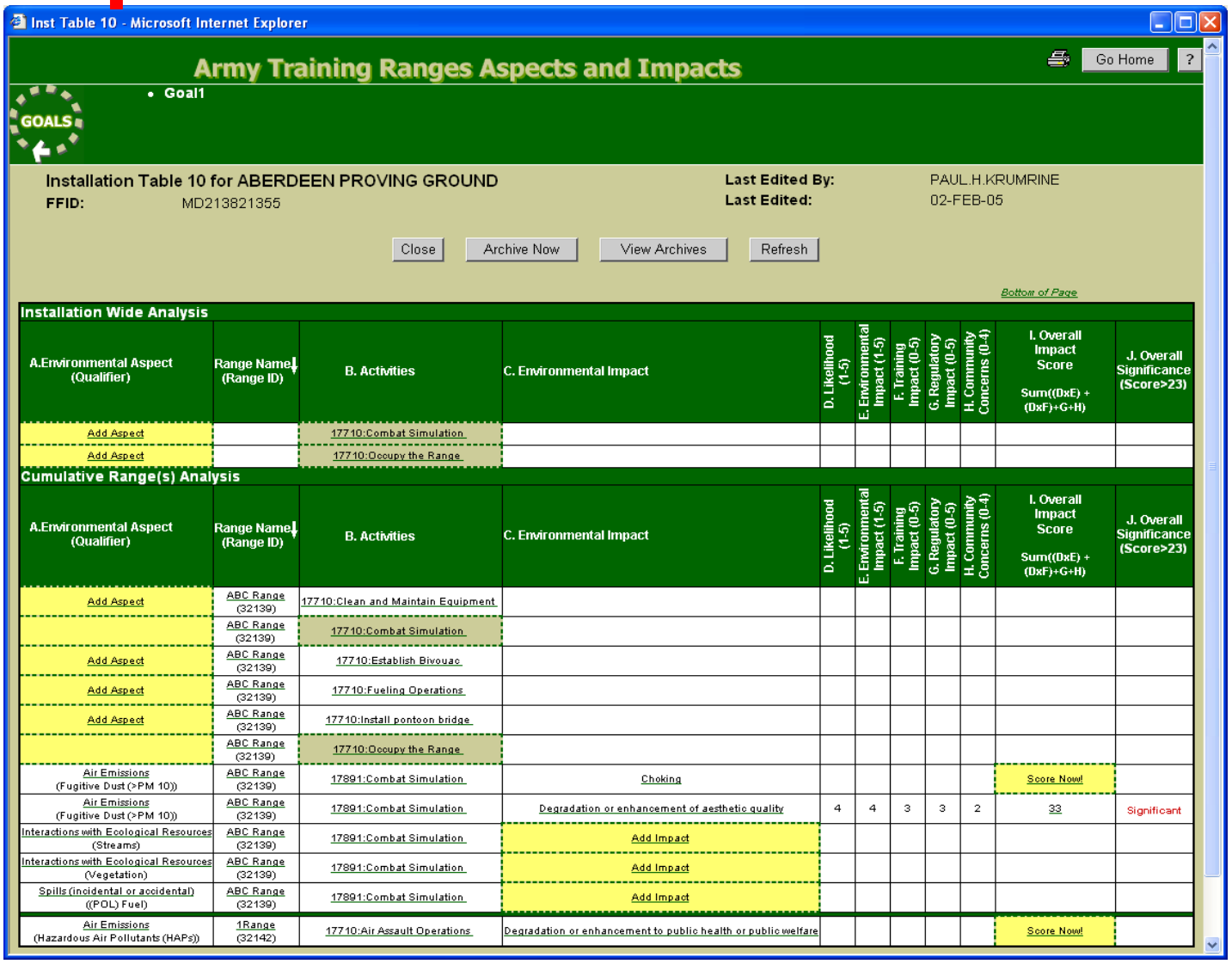
Assign an Impact to the Aspect



Quickly Score an Impact


Aberdeen Proving Ground Range Abc Range Scoring<Font Size="-1"></Font> - Microsoft Internet Explorer
ABERDEEN PROVING GROUND Range ABC Range Scoring
?
Installation Name: ABERDEEN PROVING GROUND
FFID: MD213821355
Range ID: 32139
FCC Code: 17710: Maneuver/Training Area-Light Forces
Activity: 17891: Combat Simulation
Aspect: Air Emissions
Qualifier: Fugitive Dust (>PM 10)
Impact: Degradation or enhancement of aesthetic quality
Click Scoring Criteria to view detailed instructions
Likelihood: 4 = Frequent (Weekly)
Environmental: 4 = Serious
Training: 3 = Moderate training impacts
Regulatory: 3 = Regulated in the future
Community: 2 = Some concern
Positive:
Save
Cancel
Close
Community Concern Score
YOU CHOSE: 2 = Some community concern

Export Final Product to Excel



Inst Table 10 - Microsoft Internet Explorer

Army Training Ranges Aspects and Impacts

Go Home ?

GOALS

- Goal1

Installation Table 10 for ABERDEEN PROVING GROUND
FFID: MD213821355

Last Edited By: PAUL.H.KRUMRINE
Last Edited: 02-FEB-05

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Bottom of Page

Installation Wide Analysis

A.Environmental Aspect (Qualifier)	Range Name (Range ID)	B. Activities	C. Environmental Impact	D. Likelihood (1-5)	E. Environmental Impact (1-5)	F. Training Impact (0-5)	G. Regulatory Impact (0-5)	H. Community Concerns (0-4)	I. Overall Impact Score Sum((DxE) + (DxF)+G+H)	J. Overall Significance (Score>23)
Add Aspect		17710:Combat Simulation								
Add Aspect		17710:Occupy the Range								

Cumulative Range(s) Analysis

A.Environmental Aspect (Qualifier)	Range Name (Range ID)	B. Activities	C. Environmental Impact	D. Likelihood (1-5)	E. Environmental Impact (1-5)	F. Training Impact (0-5)	G. Regulatory Impact (0-5)	H. Community Concerns (0-4)	I. Overall Impact Score Sum((DxE) + (DxF)+G+H)	J. Overall Significance (Score>23)
Add Aspect	ABC Range (32139)	17710:Clean and Maintain Equipment								
	ABC Range (32139)	17710:Combat Simulation								
Add Aspect	ABC Range (32139)	17710:Establish Bivouac								
Add Aspect	ABC Range (32139)	17710:Fueling Operations								
Add Aspect	ABC Range (32139)	17710:Install pontoon bridge								
	ABC Range (32139)	17710:Occupy the Range								
Air Emissions (Fugitive Dust (>PM 10))	ABC Range (32139)	17891:Combat Simulation	Choking						Score Now!	
Air Emissions (Fugitive Dust (>PM 10))	ABC Range (32139)	17891:Combat Simulation	Degradation or enhancement of aesthetic quality	4	4	3	3	2	33	Significant
Interactions with Ecological Resources (Streams)	ABC Range (32139)	17891:Combat Simulation	Add Impact							
Interactions with Ecological Resources (Vegetation)	ABC Range (32139)	17891:Combat Simulation	Add Impact							
Spills (incidental or accidental) ((POL) Fuel)	ABC Range (32139)	17891:Combat Simulation	Add Impact							
Air Emissions (Hazardous Air Pollutants (HAPs))	1Range (32142)	17710:Air Assault Operations	Degradation or enhancement to public health or public welfare						Score Now!	

Practical Exercise

Module 4

Environmental Management Programs

- Step 20 – Environmental Management Programs
- Step 21 – Objectives and Targets
- Step 22 – Structure and Responsibility
- Step 23 – Operational Control
- Step 24 – Competence Training
- Step 25 – Monitoring and Measurement
- Step 26 – Performance Records
- Step 27 – Emergency Preparedness and Response

Army eMS Implementation

The Step-By-Step Process

31 December 2005 Milestone: At a minimum, the Army metric elements (in yellow) must be completed and an annual management review performed before 31 December 2005 in order to satisfy Army Policy and EO 13148 requirements.

Steps 20-27

Start Here

Commander (CDR) and eMS Management Representative(EMSMR) -8):

- CDR Selects EMSMR
- EMSMR Selects Cross Functional Team (CFT)
- CFT Receives eMS Training
- CFT Conducts Self-Assessment
- CDR and EMSMR meet with EQCC
- CFT Prepares eMS Implementation
- CDR Approves eMS
- CDR/EMSMR Hold eMS Kickoff Meeting

NOTE: The EMSMR leads the CFT.

EMSMR and Cross Functional Team (CFT) MS

Step 9 Mission Focus

Step 10 Environmental Policy, ISO 14001 Sec 4.2

Step 11 Awareness Training ISO 14001 Sec 4.4.2

Step 12 Documentation ISO 14001 Sec 4.4.4

Step 13 Document Control ISO 14001 Sec 4.4.5

Step 14 Communication ISO 14001 Sec 4.4.3

Step 15 Legal and Other Requirements ISO 14001 Sec 4.3.2

Steps 16-19 Environmental Aspects ISO 14001 Sec 4.3.1

Step 20: Environmental Management Programs, ISO 14001, Sec 4.3.4

ISO 14001, Sec 4.3.3

Step 22: Structure & Responsibility ISO 14001, Sec 4.4.1

ISO 14001, Sec 4.4.6

Step 24: Competence Training, ISO 14001, Sec 4.4.2

Step 25: Monitoring and Measurement ISO 14001, Sec

Step 26: Records, ISO 14001, Sec 4.5.3

Step 27 Emergency Preparedness and Response ISO 14001 Sec 4.4.7

Step 28 Non-Conformance and Corrective and Preventive Actions, ISO 14001 Sec 4.5.2

Step 29 eMS Audits ISO 14001, Sec 4.5.4

Step 30 Management Review ISO 14001, Sec 4.6

After all eMS elements are implemented, the system shifts to a "continuous improvement" mode, where all eMS elements are periodically reviewed and revised to improve mission focus and environmental performance

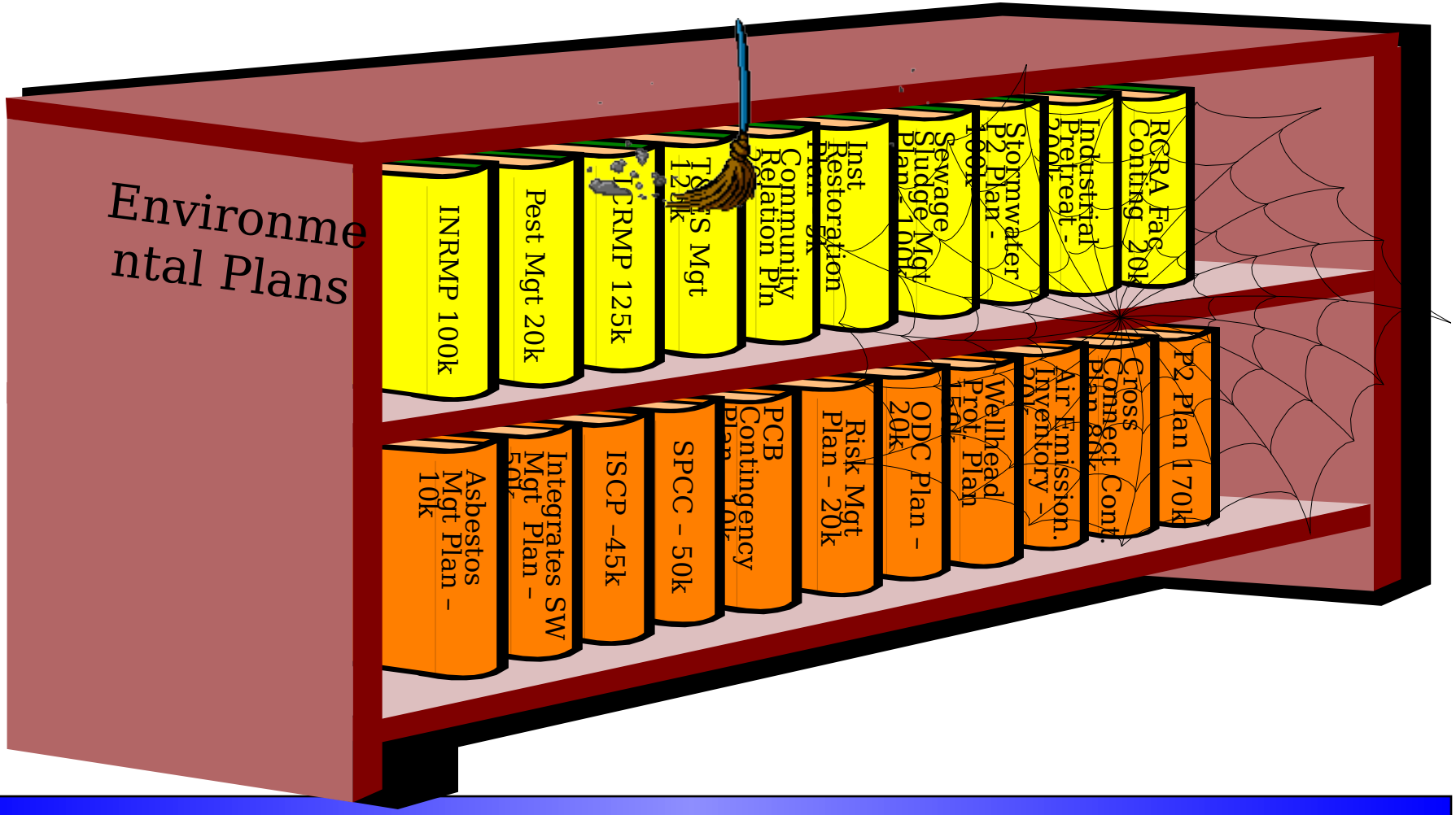
Step 20
Develop Installation Environmental Management Programs

ISO 14001:2004(E), paragraph 4.3.3:

"The organization shall establish and maintain (a) programme(s) for achieving its objectives and targets." Programme(s) shall include

- *Designation of responsibility for achieving objectives and targets at relevant functions and levels of the organizations, and*
- *The means and time-frame by which they are to be achieved.*

The Old Way of Planning –
Stovepiped, Sometimes Dust Covered Plans on the Bookshelf of the Environmental Office



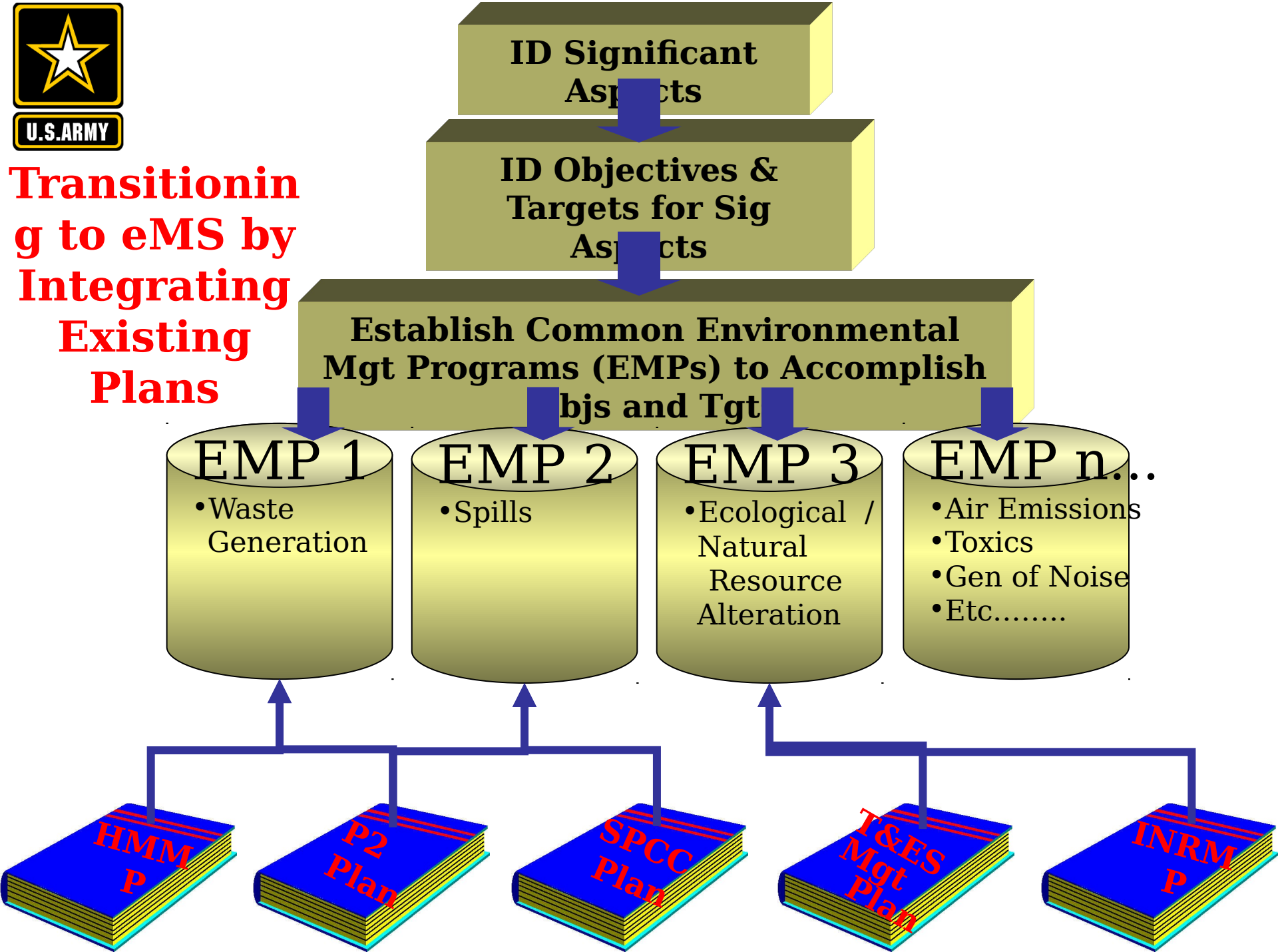
What is Wrong With Having 25 Separate Plans – These are Important Programs?

- Non-standardized documentation of requirements
  - Difficult to prioritize limited resources across stovepipe programs
  - Difficult to gather holistic understanding of requirements
- No mechanism to ensure that we do the things we said we were going to do.
- Transforming plans into programs (SOPs, training, monitoring, etc.)
- Often don't "do" or check to see that we "did"…….. so why go through the effort of planning?
- Not sufficient to ensure long-term sustainability of operations, or as easily integrated into the Army culture
  - Prioritized on regulatory requirements, not on true risks to mission, environment and community.

How Are Existing Programs Treated in eMS?

- Don’t throw out - Existing programs are included and revised to fit the eMS framework.
- They already address known significant risks.
- Achieving compliance or control of a risk does not make it less significant.
- All programs (pre and post-eMS) are part of the System; None should be considered outside the scope of eMS.

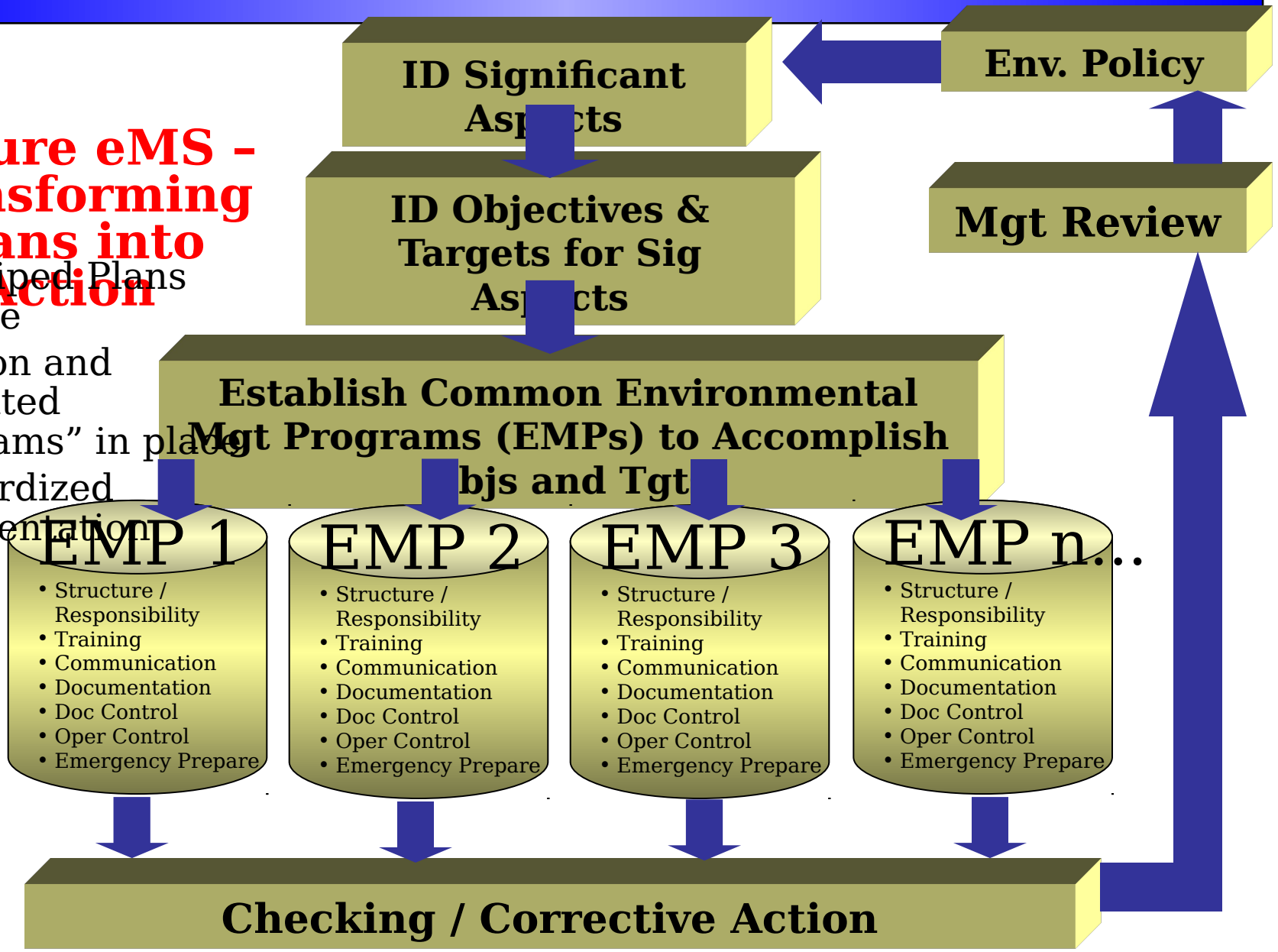
Transitioning to eMS by Integrating Existing Plans



Army eMS Implementation

Mature eMS – Transforming Plans into Action

- Stovepiped Plans Dissolve
- Common and integrated "programs" in place
- Standardized Documentation



Step 20
Develop Installation Environmental Management Programs

- Manage aspects – not medias or laws
- The EMPs can be used to consolidate many of the ISO 14001 requirements to form a single construct of interrelated parts to address a given environmental aspect
- Review Sample EMP

Step 20
Develop Installation Environmental Management Programs

- Coordination & oversight
- Keeping them updated
  - Objectives & targets are changed or added
  - Legal requirements added or changed
  - Substantial progress made (or not made) in achieving targets & objectives
  - Services, processes or facilities change
- Documentation

Step 21
Establish Environmental Objectives & Targets

ISO 14001, paragraph 3.9:

Environmental objective *"an overall environmental goal, consistent with the environmental policy, that an organization sets itself to achieve."*

ISO 14001, paragraph 3.12:

Environmental target *"a detailed performance requirement, applicable to the organization or parts thereof, that arises from the environmental objectives and that needs to be set and met in order to achieve those objectives."*

Objectives & Targets and ISO 14001

ISO 14001:2004(E), paragraph 4.3.3:

- The organization shall establish, implement and maintain documented environmental objectives and targets at relevant functions and levels within the organization.
- The objectives and targets shall be measurable, where practicable, and consistent with the environmental policy, including the commitments to P2, compliance with applicable legal requirements and with other requirements to which the organization subscribes, and to continual improvement.

Objectives & Targets and ISO 14001

ISO 14001:2004(E), paragraph 4.3.3:

"When establishing and reviewing its objectives, an organization shall take into account the legal requirements and other requirements to which the organization subscribes, and its significant environmental aspects. It shall also consider its technological options, its financial, operational and business requirements, and views of interested parties."

Step 21
Environmental Objectives & Targets Considerations

- Environmental Policy
- Mission priorities
- Legal and other requirements
- Significant Aspects
- Views of interested parties
- Financial, operational, and business requirements
- Technological feasibility

Step 21
Establish Environmental Objectives & Targets

Objectives and targets should:

- Be understandable
- Be readily measurable
- Be realistic or achievable, but don't shy away from BHAGs
- Cover short and long-term issues
- Be consistent with installation strategic planning initiatives
- Be consistent with installation sustainability goals
- Ability to track, monitor, and measure results

Step 21
Establish Environmental Objectives & Targets

- Involve the cross-functional team
- Identify appropriate targets to achieve each objective
- Establish performance measures for final objectives & targets
- Document your procedure for developing environmental objectives & targets

Step 21
Establish Environmental Objectives & Targets

Environmental Performance Indicators / Metrics

- ISO 14031 presents two types of measurable indicators: EPIs and EPMs
- Best considered when setting O&Ts
- Key for monitoring and measurement
- Include leading and lagging indicators
- It is useful to establish baselines or other points of departure

Step 21
Example Environmental Objectives & Targets

SIG. ASPECT	OBJECTIVE	TARGET	PERFORMANCE INDICATOR
Spills	Reduce probability of spills	Train 100% of affected employees by FY06	Number of employees vs. employees receiving 20 min orientation training on new SPCC

Step 21
Example Environmental Objectives & Targets

SIG. ASPECT	OBJECTIVE	TARGET	PERFORMANCE INDICATOR
Natural Resource Consumption - Water	Minimize Water Use	Reduce average monthly use by 10% NLT the end of 2006 from 2004 baseline	Average monthly water use in gallons (*per employee)*

Step 21
Example Environmental Objectives & Targets

SIG. ASPECT	OBJECTIVE	TARGET	PERFORMANCE INDICATOR
Waste Generation	Reduce Solid Waste Disposal	Divert 40% of solid waste from landfilling every year	Total tons solid waste diverted vs. total tons generated
		Divert 100% of C&D waste from landfilling by 2008	Total tons C&D waste diverted vs. total tons generated

Step 21
Example Environmental Objectives & Targets

SIG. ASPECT	OBJECTIVE	TARGET	PERFORMANCE INDICATOR
Energy Use	Conserve Energy	1) Reduce family housing energy consumption by 30% from FY02 baseline by 2008	Total energy use (Btu) for the family housing.
		2) Reduce production line energy consumption by 10% from FY02 baseline by 2008	Total energy use (Btu) for TNT production line.
		3) Purchase 20% of installation energy from renewable sources by 2010.	Total energy purchased (Btu) for the entire installation vs. Total energy purchased from renewable sources

Step 21

Exercise - Environmental Objectives & Targets

SIG. ASPECT	OBJECTIVE	TARGET	PERFORMANCE INDICATOR

Step 22
Define Structure & Responsibilities

ISO 14001, paragraph 4.4.1:

"Roles, responsibility and authorities shall be defined, documented and communicated in order to facilitate effective environmental management."

Step 22
Define Structure & Responsibilities

- Appoint a management representative *(Did this in step 1)*
- Organizational chart (Every installation has one)
- eMS organizational responsibilities table (Who is the EMSMR, CFT members, etc.)
- Define specifically who will accomplish tasks in the EMP
- eMS procedure for structure & responsibility

Step 22
Define Structure & Responsibilities

DOCUMENTING RESPONSIBILITIES

- Applies to those individuals having responsibilities for implementing the eMS - not just environmental professionals
- Format and methods are up to you, but could include:
  - Job descriptions
  - List of environmental responsibilities
  - Integral part of procedures
- Remember to define authority

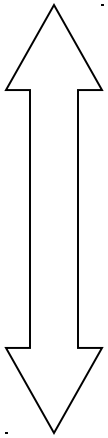
Step 23
Develop Operational Controls (SOPs)

ISO 14001, paragraph 4.4.6:

"The organization shall identify and plan those operations that are associated with the identified significant environmental aspects consistent with its environmental policy, objectives and targets, in order to ensure that they are carried out under specified conditions by…..

Step 23
Develop Operational Controls (SOPs)

Less Detail



More Detail

Environmental Policy

eMS Manual

eMS Procedures

Work Instructions (SOPs)

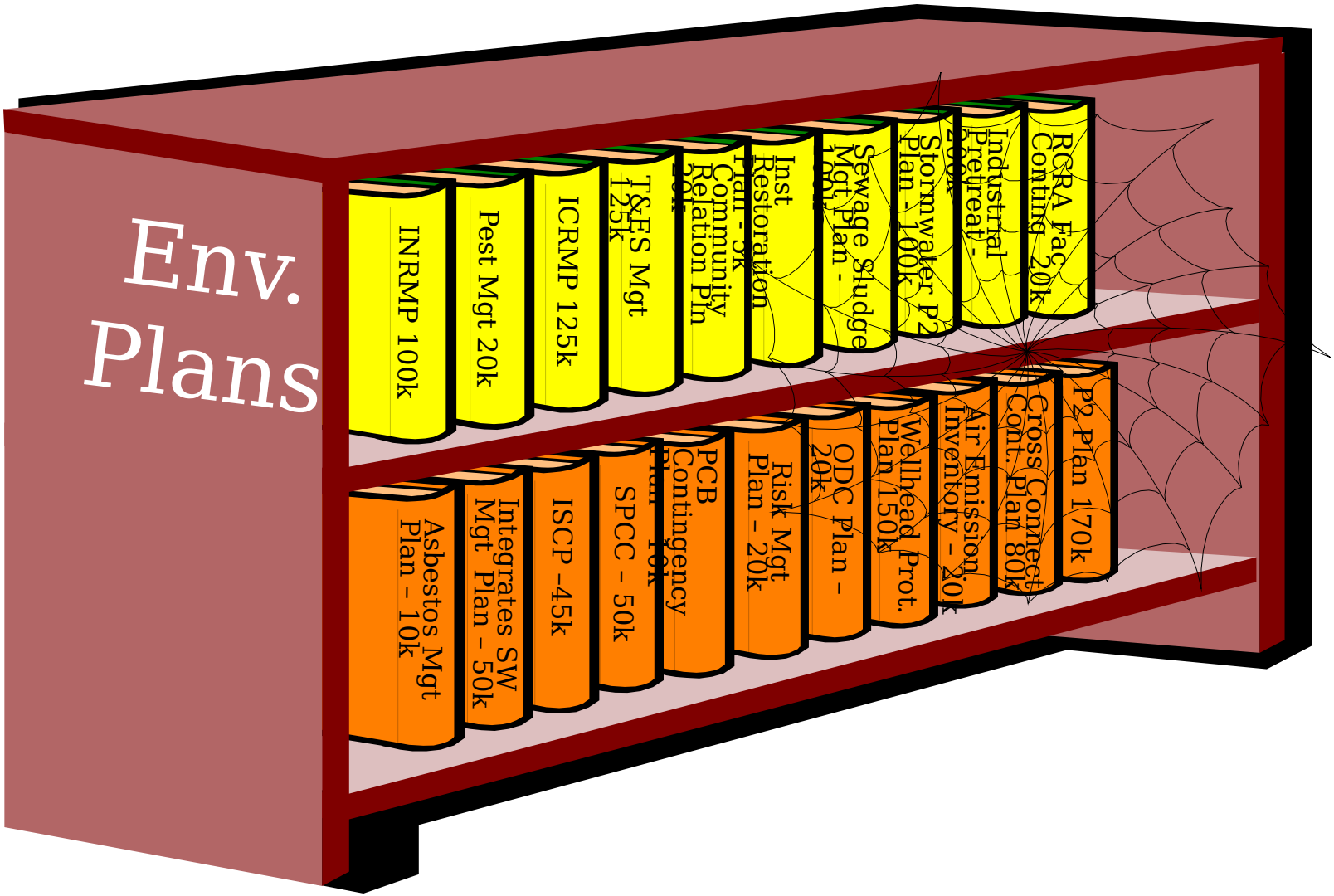
eMS Records

Step 23
Develop Operational Controls (SOPs)

- Your installation should have many SOPs already developed
- Match existing SOPs with prioritized list of significant aspects & impacts and EMPs
- Procedures must be documented
- Procedures stipulate operating criteria
- Develop a schedule to review/revise SOPs

Army eMS Implementation

Likely Sources of SOPs



Step 24
Competency Training

ISO 14001, paragraph 4.4.2:

"The organization shall ensure that any person(s) performing tasks for it or on its behalf that have the potential to cause a significant environmental impact(s) identified by the organization is (are) competent on the basis of appropriate education, training or experience, and shall retain associate records."

Step 24
Competency Training

Who?

Employees performing tasks that have the potential to cause significant environmental impacts

What?

The significant environmental impacts of their work activities and the potential benefits and/or consequence of following or departing from their operating procedures

This is not the same as the awareness training addressed in step 11

Step 24
Competency Training

Competence

- Legally required (HAZMAT, HAZCOM, etc.)
- Specialized skills
  - Auditing
  - Calibration
  - equipment
- Integrated job specific training
- Refresher training

Step 24
Training & Competency

- Use your existing training office & systems
- Consider all forms of training (e.g. OJT, brownbag sessions, computer-based training, videos, etc.)
- Document the training

Step 25
Develop Monitoring & Measuring Procedures

ISO 14001 2004, paragraph 4.5.1:

"The organization shall establish, implement and maintain a procedure(s) to monitor and measure, on a regular basis, the key characteristics of its operations that can have a significant impact on the environment. The procedure(s) shall include the documenting of information to monitor performance, applicable operational controls and conformity with the organizations environmental objectives and targets"

Step 25
Develop Monitoring & Measuring Procedures

- Monitor and measure the key characteristics of operations and activities that can have a significant impact on the environment.
- Track environmental performance (including progress toward meeting objectives and targets, conformance with SOPs)
- Monitor the calibration of testing/measurement equipment related to eMS significant aspects and to maintain records of the calibration process.

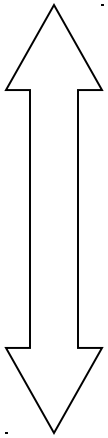
Step 26
Maintain Performance Records

ISO 14001, paragraph 4.5.3:

"The organization shall establish and maintain procedures for the identification, maintenance and disposition of environmental records. These records shall include training records and the results of audits and reviews."

Step 26
Maintain Performance Records

Less Detail



More Detail

Environmental Policy

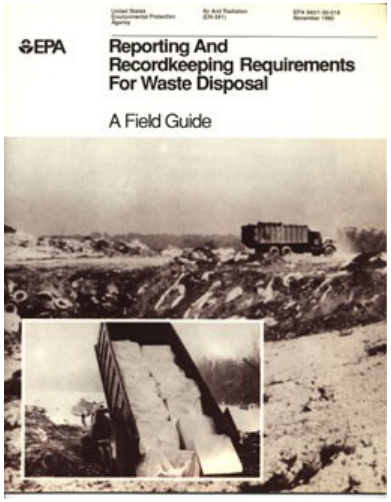
eMS Manual

eMS Procedures

Work Instructions (SOPs)

eMS Records

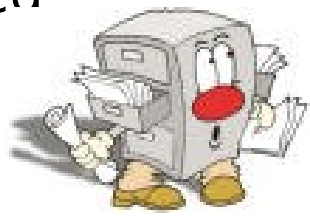
Step 26
Maintain Performance Records



Records must be:

- Legible
- Identifiable and traceable to the appropriat activity, product, or service

- Stored & maintained in a way that they are readily retrievable
- Protected against damage, deterioration or loss
- Kept in accordance with established and recorded retention times



Step 27
Develop Emergency Preparedness Procedures

ISO 14001 2004, paragraph 4.4.7:

"The organization shall establish, implement and maintain a procedure(s) to identify potential emergency situations and potential accidents that can have an impact(s) on the environment and how it will respond to them……."

Step 27
Develop Emergency Preparedness Procedures

The ISO 14001 standard requires installations to establish and maintain procedures to:

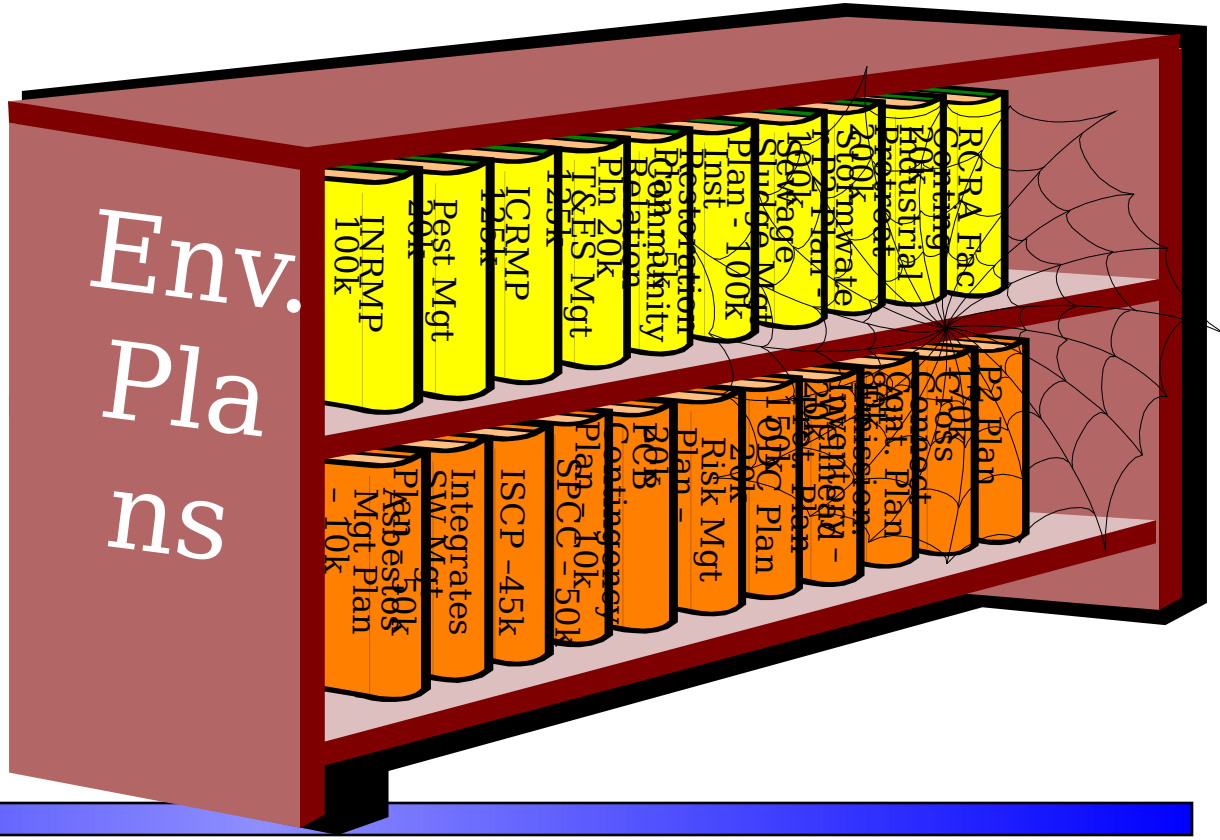
- Identify potential for accidents and emergency situations
- Respond to accidents and emergency situations
- Prevent and mitigate the environmental impact that may be associated with accidents and emergencies
- Review and revise emergency preparedness and response procedures where necessary, especially after the occurrence of an accident or emergency
- Conduct drills and tests of emergency preparedness and response procedures

You should already have these

Step 27
Develop Emergency Preparedness Procedures

- Determine what emergency plans & procedures are required
- Train & conduct exercises to test procedures
- Review and update your existing response plans
- Post & distribute the plans
- Document procedures

  and test results



Steps 20-27
Environmental Management Program

Completed Steps 20-27?

Yes?

You now have an *environmental management program* to manage each of your significant environmental aspects and their associated objectives and targets

Understanding the eMS Manual

The eMS Manual is made up of two parts

1. Part 1 Contains:
   - Introduction
   - eMS Scope
   - Organizational Characteristics
   - Environmental Policy
   - eMS Procedures

2. Part 2 Contains:
   - eMS Programs
   - Records produced by the eMS and other eMS information (Often primarily composed of references that allow the user to locate the relevant documents)

Module 5
Evaluating the eMS

- Step 28 – Non-Conformance and Corrective and Preventive Actions
- Step 29 – eMS Audits
- Step 30 – Management Review

Army eMS Implementation

The Step-By-Step Process

31 December 2005 Milestone: At a minimum, the Army metric elements (in yellow) must be completed and an annual management review performed before 31 December 2005 in order to satisfy Army Policy and EO 13148 requirements.

Start Here

Commander (CDR) and eMS Management Representative(EMSMR)

- CDR Selects EMSMR
- EMSMR Selects Cross Functional Team (CFT)
- CFT Receives eMS Training
- CFT Conducts Self-Assessment
- CDR and EMSMR meet with EQCC
- CFT Prepares eMS Implementation Plan
- CDR Approves eMS Implementation Plan
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NOTE: The EMSMR leads the CFT.

EMSMR and Cross Functional Team (CFT)

Step 9 Mission Focus

Step 10 Environmental Policy, ISO 14001 Sec 4.2

Step 11 Awareness Training ISO 14001 Sec 4.4.2

Step 12 Documentation ISO 14001 Sec 4.4.4

Step 13 Document Control ISO 14001 Sec 4.4.5

Step 14 Communication ISO 14001 Sec 4.4.3

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ISO 14001, Sec 4.3.3

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Step 29 eMS Audits ISO 14001, Sec 4.5.4

Step 30 Management Review ISO 14001, Sec 4.6

After all eMS elements are implemented, the system shifts to a "continuous improvement" mode, where all eMS elements are periodically reviewed and revised to improve mission focus and environmental performance

Step 28

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Step 28
Non-Conformance and Corrective and Preventive Actions

ISO 14001, paragraph 4.5.2:

"The organization shall establish and maintain procedures for dealing with actual and potential nonconformity and for taking corrective action and preventive action. The procedures shall define requirements for ..."

Step 28
Develop Corrective Action Procedures

Non-conformance refers to any situation or action that does not meet or comply with the requirements established in your installation's eMS or the ISO 14001 standard. Non-conformance can also mean that implementation is not consistent with the eMS description. Note that this is different from *non-compliance* with environmental regulations!

ISO 14001, Paragraph 3.15 Non-Conformity: "Non-fulfillment of a requirement."

Requirements of the Nonconformance and Corrective and Preventive Action Procedures

- Identifying and correcting nonconformities and taking actions to mitigate their environmental impacts
- Investigating nonconformities, determining their causes and taking actions in order to avoid their recurrence
- Evaluating the need for actions to prevent nonconformity and implementing appropriate actions designed to avoid their occurrence,
- Recording the results of corrective actions and preventive actions taken, and
- Reviewing the effectiveness of corrective actions and preventive actions taken

Typical Causes of Nonconformance

- Poor Communication between functional areas
- Poorly written procedures / lack of needed procedures
- Lack of Training
- Lack of understanding of the requirements
- Failure to enforce rules,
- Corrective actions that do not address the root cause of the problems
- Equipment malfunction / calibration

Step 29
Conduct Periodic Audits

ISO 14001, paragraph 4.5.5:

"The organization shall ensure that internal audits of the environmental management system are conducted at planned intervals to ..."

Conduct Periodic Audits

The ISO standard requires the organization, at planned intervals, establish, implement & maintain programs and procedures for periodic eMS audits to:

- Determine if the eMS operates in accordance with documented procedures and the ISO 14001 standard
- Determine if the eMS has been properly implemented and maintained
- Provide audit results to management

Internal Audits

Audit Programs Must:

- Take into consideration the environmental importance of the operation
- Results of previous audits.

Audit Procedures Must Address:

- Responsibilities and requirement for planning and conducting audits, reporting results and retaining records
- Audit criteria, scope, frequency and methods used
- Provide audit results information to management

This brings us to … Self-Declaration…

Self-Declaration Procedures

Who: Army installations on the "Appropriate List for eMS Implementation"

Why: Show compliance with EO 13148 and Army policy and eMS implementation metrics

When: Starting in FY05

How: Through the use of internal or external audits

eMS and Self Declaration

Self Declaration Background

- Section 1 (Scope) of ISO 14001 mentions the possibility of *self-determining* and *self-declaring* conformance with the ISO 14001 standard.
- The ISO 14000 series of standards provide no formal guidance on the *self-declaration* process, nor any details about what kind of statement an organization can make.
- *Self-declaration* simply implies that an organization that has implemented ISO 14001 asserts that it conforms to the standard, without the involvement of certification bodies.
- Army developed an agency wide protocol to self declare compliance with EO 13148.

eMS and Self Declaration

Self Declaration Background

- Office of the Federal Environmental Executive (OFEE) has the responsibility of eMS implementation under EO 13148.
- Means by which the Army will demonstrate compliance with EO13148 and conformance to ISO 14001 – 2 milestones.

eMS and Self Declaration

Purpose of the Protocol

- Credible and verifiable process by which Federal facilities comply with EO 13148 requirements for eMS Implementation.
- Document a standardized business process used by Army installations to self declare.
- Establish and maintain procedures for periodic eMS audits.
- Ensure that accepted eMS principles are being implemented.

eMS and Self Declaration

Two Tracks for Self Declaration

Self-declaration applies to two eMS milestones

1. EO 13148 compliance - six DoD metrics are completed.
   - EQR is the mechanism to "state" compliance with EO
   - Based on either internal or external EPAS audit
2. Full conformance with ISO 14001 is achieved.
   - Declaration approved by the Commander
   - Forwarded through Chain of Command to ODEP
   - Update EQR
   - Based on either internal or external EPAS audit

Step 30
Conduct Management Reviews

ISO 14001, paragraph 4.6:

"The organization's top management shall, at intervals that it determines, review the environmental management system, to ensure its continuing suitability, adequacy and effectiveness."

Army Metric - Accomplish by 31 December 2005!

Conduct Management Reviews

Performed by top management to:

- Provide general information about the eMS and current environmental issues to top management (continuing awareness).
- Discuss the relevancy of the installation's environmental policy, objectives, and targets in light of changing situations, and making appropriate revisions.
- Discuss eMS audit results, and approve related plans and resources required to improve the eMS.
- Review progress toward objectives and targets, approve new or revised objectives and targets.

Summary of Key Dates

- Environmental Policy 30 Sep 03
- Funding Available 1 Oct 03
- Self-Assessment Completed 30 Mar 04
- Implementation Plan Developed 30 Sep 04
- Prioritized List of Aspects 30 Mar 05
- Awareness Training Completed 30 Mar 05
- eMS in Place w/ one Mgmt Review 31 Dec 05
- Fully Conforming eMS 30 Sep 09

Summary - Keys to Success

- Must have strong top & mid-level management commitment/involvement.
- Convincing others that eMS is not the latest environmental fad.
- Early coordination of multiple tenants, leaders, and funding priorities.
- Leverage other existing systems.
- Maintain persistence and stay focused.

Resources

- U.S. Army Environmental Management Systems Implementers Guide, Version 2.0, Aug 2003
- U.S. Army Environmental Management Systems Commanders Guide, June 2003
- Environmental Management Systems Aspect & Impact Methodology for Army Training Ranges, March 2004
- International Organization for Standardization, Environmental Management Systems – Specification with guidance for use, ISO 14001:2004
- International Organization for Standardization, Environmental Management Systems-General guidelines on principles, systems and supporting techniques, first edition, ISO 14004:1996(E);
- Concurrent Technologies Corporation, Environmental Management Systems Guidance Manual: Implementing ISO 14001;
- Concurrent Technologies Corporation, Environmental Management Toolkit-An Environmental Management System Implementation Tool, October 2002;
- National Science Foundation International Strategic Registrations (NSF-ISR), Ltd., Environmental Management Systems-An Implementation Guide for Small and Medium-Sized Organizations, second edition, January 2001; and
- The Public Entity Environmental Management system Resource (PEER) Center, How to implement an eMS [on-line document], un-dated [cited February 2003]. Available from http://www.peercenter.net/howtoimplement/.